11. Network Printer Server

11.1 Network Printer

11.1.1 Network Card Model Names

- SCX-5315 Series : McKinley Plus
- SCX-4720 Series : Rocky2_SEC
- SCX-4720FN : Rocky2(Sec)_Plus - Phy B'd Network Basic Model
- SCX-6x20 Series : McKinley2_SEC
- SCX-6x20FN : McKinley2_SEC - Network Basic Model
- SCX-5x30 Series : Elbert - Network On board, Network Basic Model
- SCX-6x22 Series : Elburz - Phy B'd Network, Network Basic Model
- CLX-3160 Series : Iris - Network On board, Network Basic Model
- SCX-4725FN : Whitney2 - Network On board Network Basic Model
- SCX-6x45 Series : Jungfrau - Network Basic Model (PCI)

11.1.2 Optional Network Card Model Names

- ML-00NB, ML-00NC, ML-00NE, ML-00NF, CLP-N600A
  : Optional internal wired network card for PRINTER

- ML-00LB, ML-00LC, ML-00LE, ML-00LF, CLP-N600B
  : Optional internal wired/wireless network card for PRINTER

- ML-00NA
  : Old optional internal wired network card

- SCX-00NB
  : Optional internal wired network card for MFP

- SCX-00LA
  : Optional internal wired/wireless network card for MFP

- SCX-00NA
  : Optional internal wired network card for Mckinley plus only

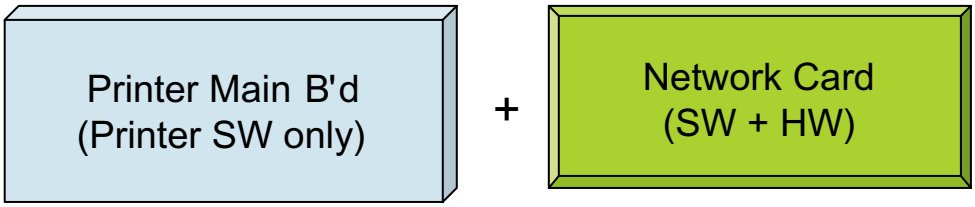
- SCX-6320NA
  : Optional internal wired network card for Mckinley2 only

11.1.3 External Network Card Model Names

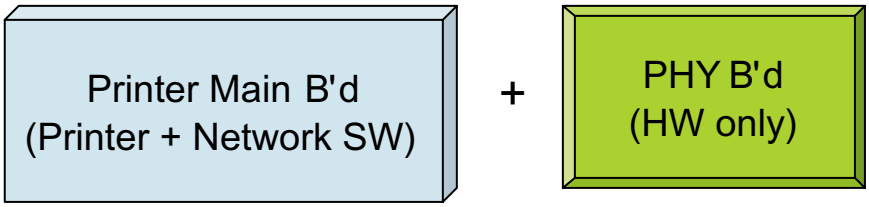
- ML-00LA: External wired/wireless network printer server
- ML-00ND: External wired network printer server

11.2 Printer Connection Method

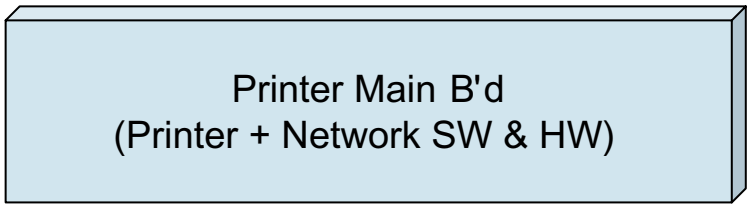
- Network Card Type



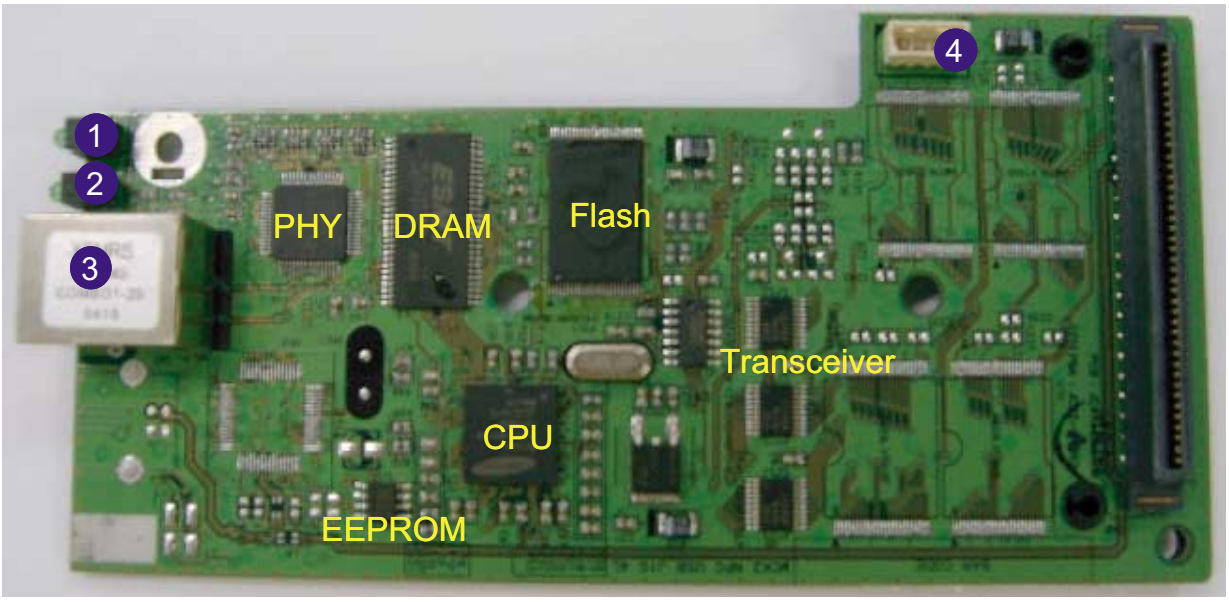
- PHY Board Type



- Network Printer on-board Type



- Network Card (SCX-6320NA/SEE)



1 Link LED

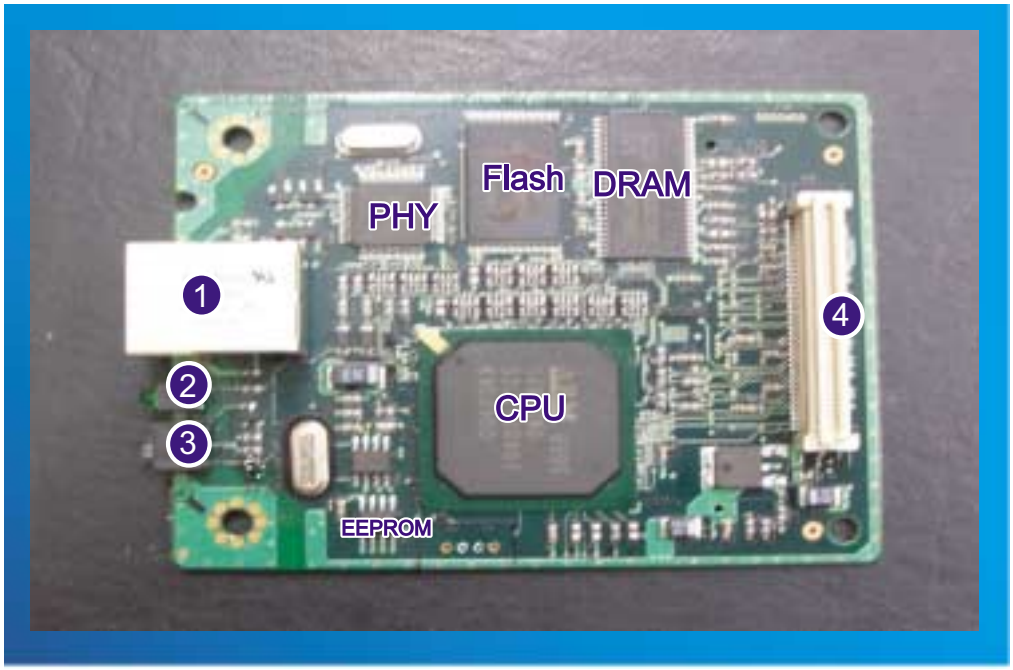
2 Activity LED

3 RJ-45 Modular Jack

4 Serial Interface for Debugging

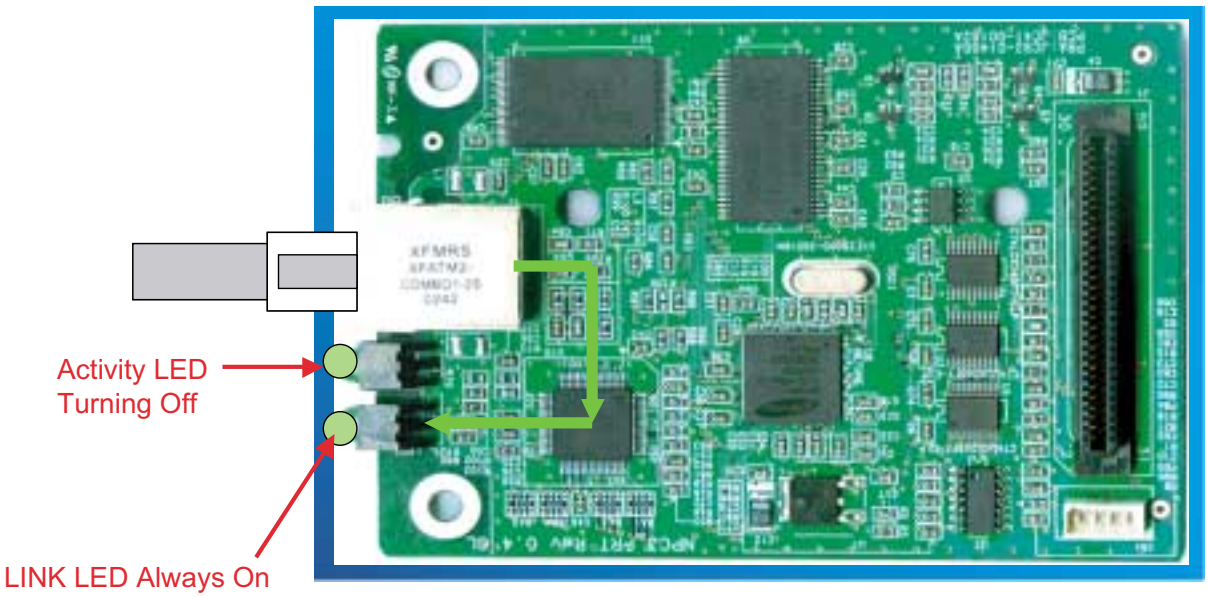
- Network Card (NPC3H)

- ML-3561N
- CLP-600N
- ML-00NF/00LF
- CLP-N600A
- CLP-N600B
- SCX-6x45 Series

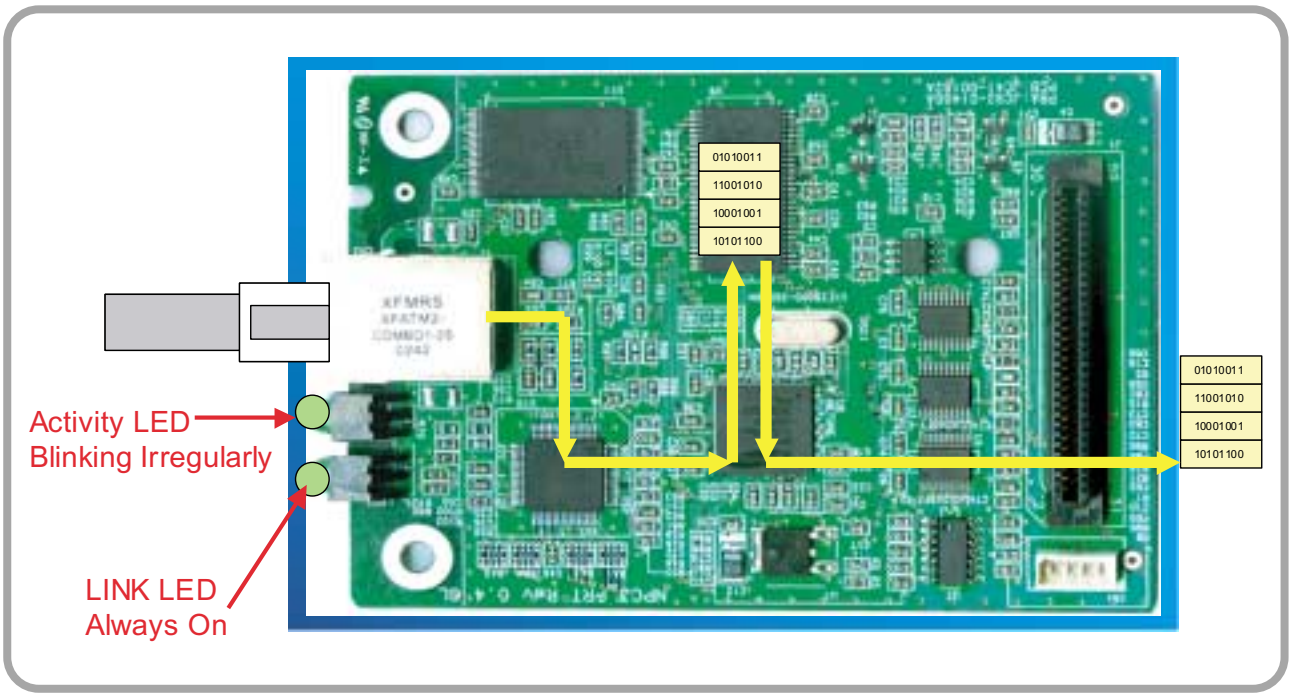


1 RJ-45 Modular Jack
2 Activity LED
3 Link LED
4 Printer I/F Connector

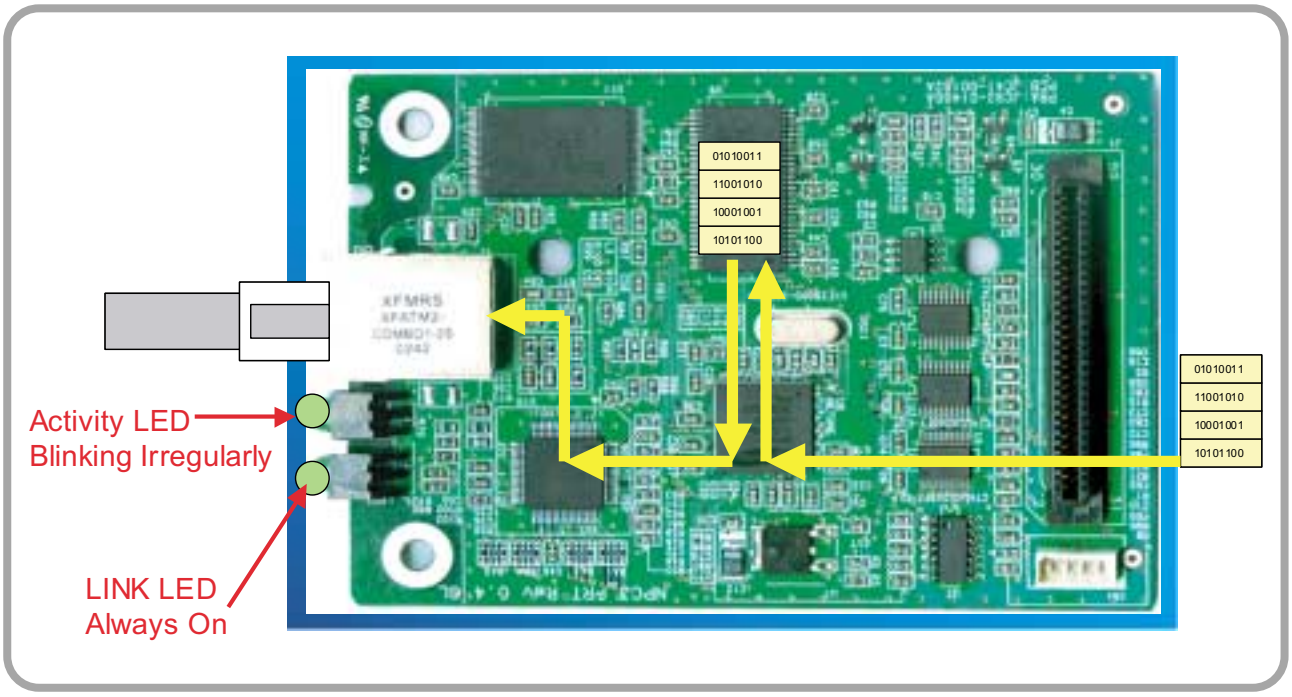
- Link Sequence



- Network Data Reception



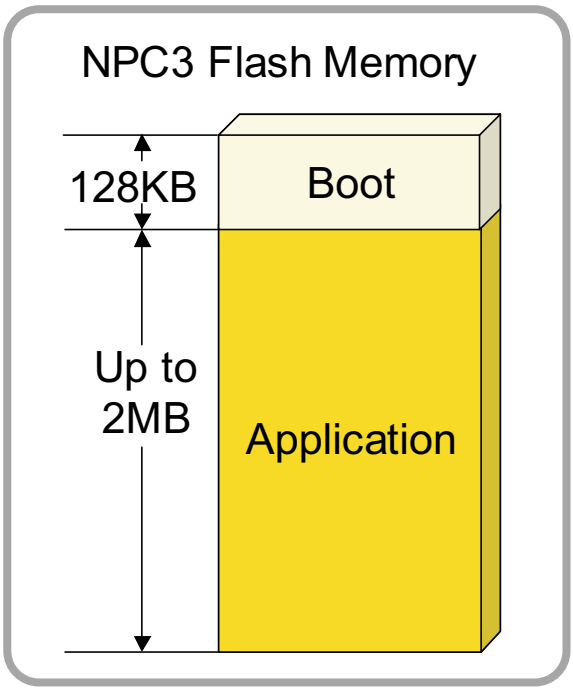
- Network Data Transmission



11.3 Network Card Firmware

Firmware Components

- Boot code ROM
- Application code ROM



Boot Code ROM

- Power-on initialization
- Mostly model-independent

Application Code ROM

- Doing major functions
- Model-dependent program

11.4 Network Card Firmware : Upgrade

Firmware Upgrade

- To upgrade network card firmware with latest version
- Use TFTP Protocol (Network Card Type Only)
- Use HTTP Protocol (Embedded Web Server, SWS, SWAS)

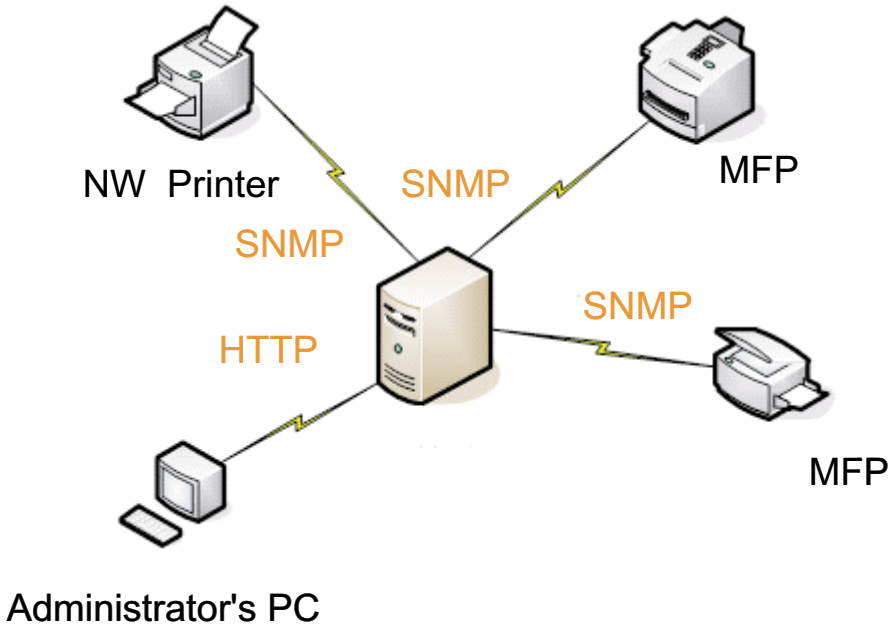
Requirements

- Target Network Card
  - Well Configuration of TCP/IP Protocol
  - In Local Area Network with Server Computer

- Server Computer
  - Well Configuration of TCP/IP Protocol
  - Samsung SyncThru Application in case of using TFTP.
  - SyncThru Web Service (SWS) in case HTTP.

11.5 SyncThru Web Admin Service Web based Printer Management Solution

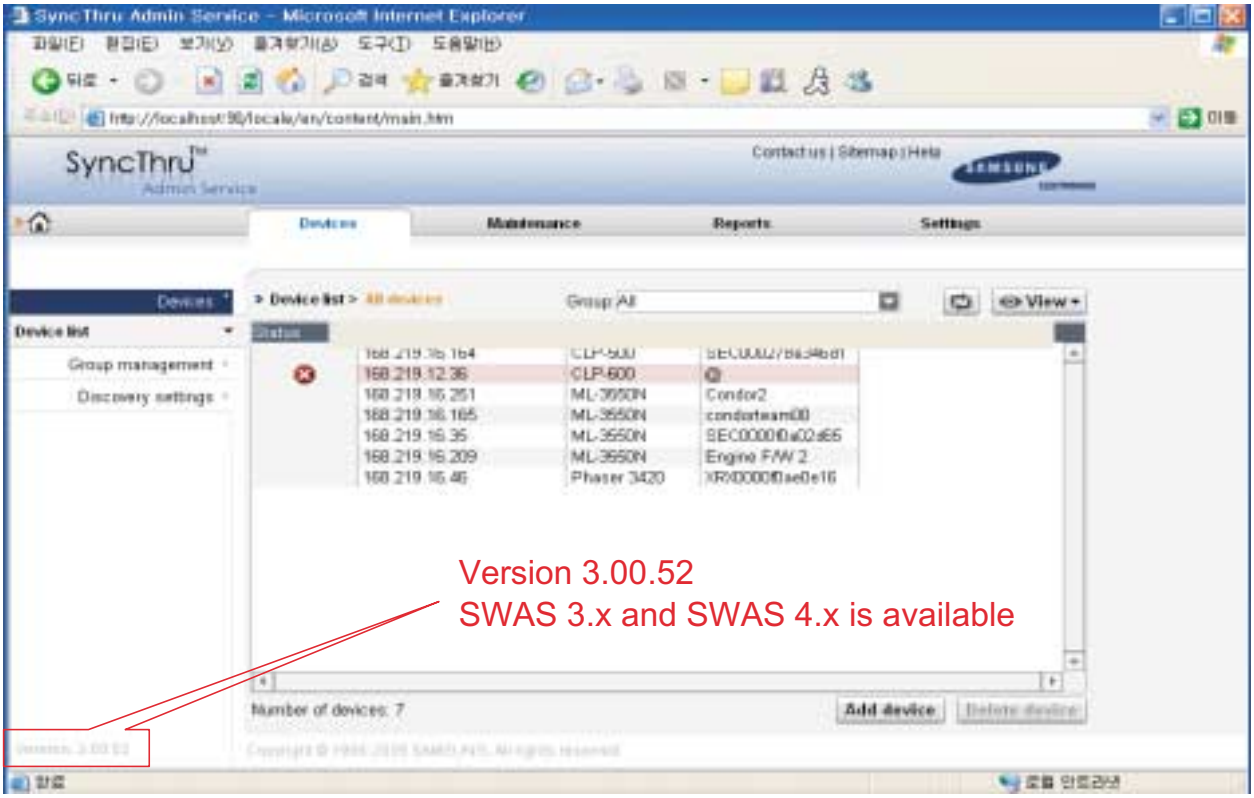
- Detecting device on the network
- Performing Maintenance operations
- Getting detailed reports and statistics on device events



11.5.1 SWAS Features

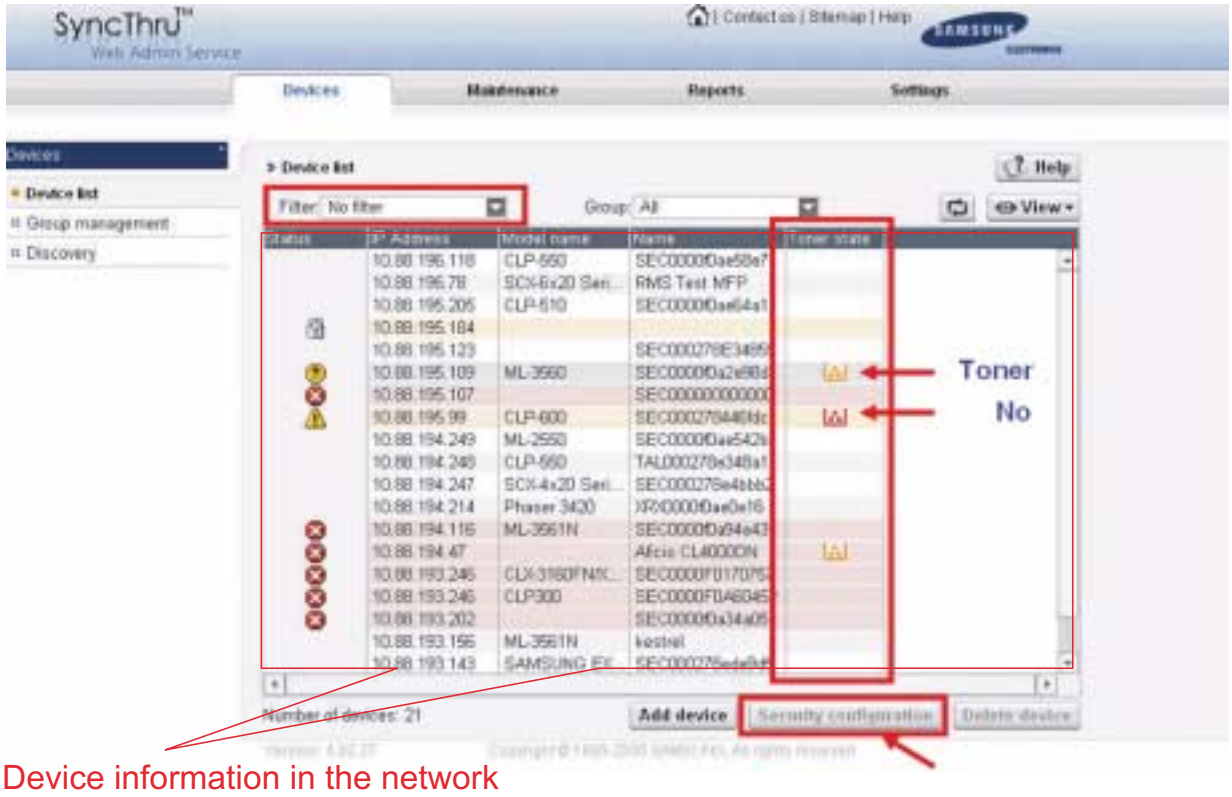
Version	Model	Remark
3.xx.xx	Kestrel (ML-3560), Dove (ML-3051ND), Falcon (ML-8800), Elbert (SCX-5530FN), DaVinci (CLP-600), DaVinci PDL (CLP-650), Iris (CLX-3160FN)	- Detecting device on the network - Performing Maintenance operations - Display general , Supply, Protocols, Status, Usage meters, Alert, Diagnostics information - Grouping and Managing devices - Setting of detection Protocol - Upgrading Firmware group of device - Reporting information of Alert and Consumables by HTML or Email
4.xx.xx	Oriole (ML-2570), Stork (ML-4551ND), Elbruz (SCX-6322DN), Whitney2 (SCX-4725)	- Discovery Status Checking - Set IP - Online Toner Ordering - SSL / User Authentication - IPv6 - SNMP V3 - 13 Languages (Hungarian, Brazilian Portuguese, Turkish)
Plug-ins	Jungfrau And upcoming model	· Plug-in will be released in the samsung download center · Plug-ins can be installed on the SyncThru4.0 (Add-on functions) - Restrict user permission and monitor actual usage information (Job Accounting Plug-in) - Copy configuration settings into multiple devices (Device Cloning Plug-in) - Add, delete, copy and move files between devices (File Storage Plug-in) - Discovery and monitor about non- network printers (Local Device Discovery Plug-in) - Get the latest driver and management driver files (Driver Management Plug-in) - Pre-configure and install drivers in the remote hosts (Driver Management Plug-in)

11.5.2 Version Identifier

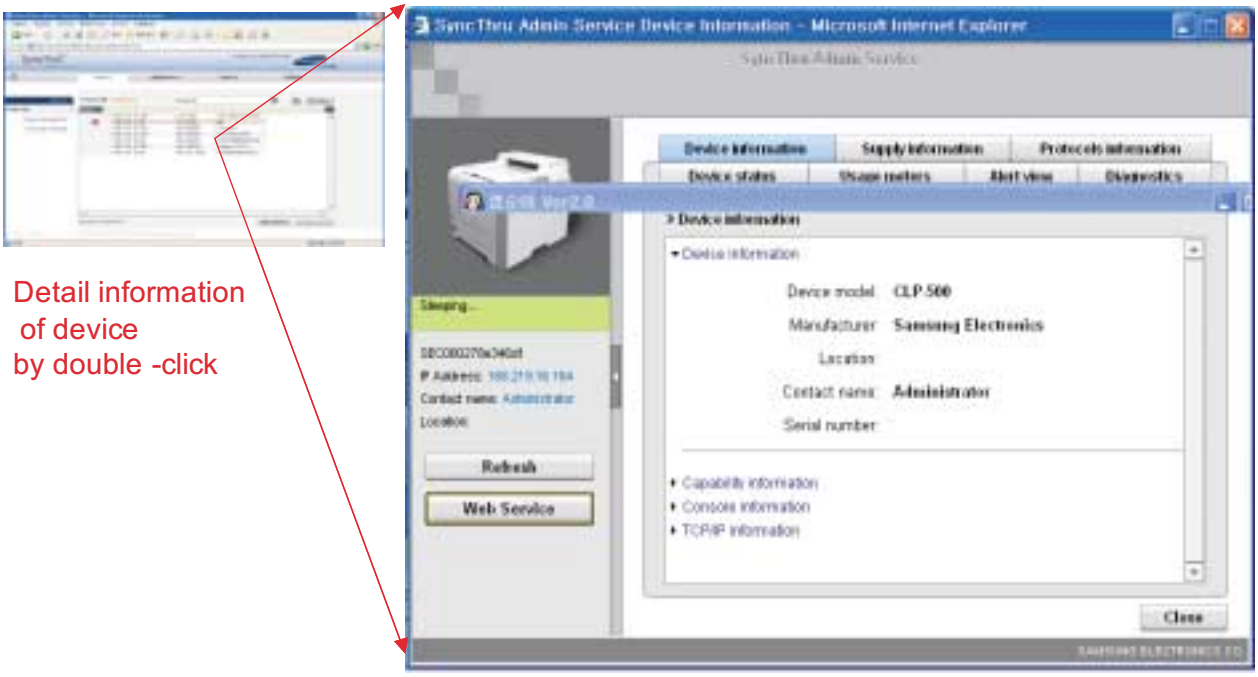


11.5.3 SWAS Device Menu

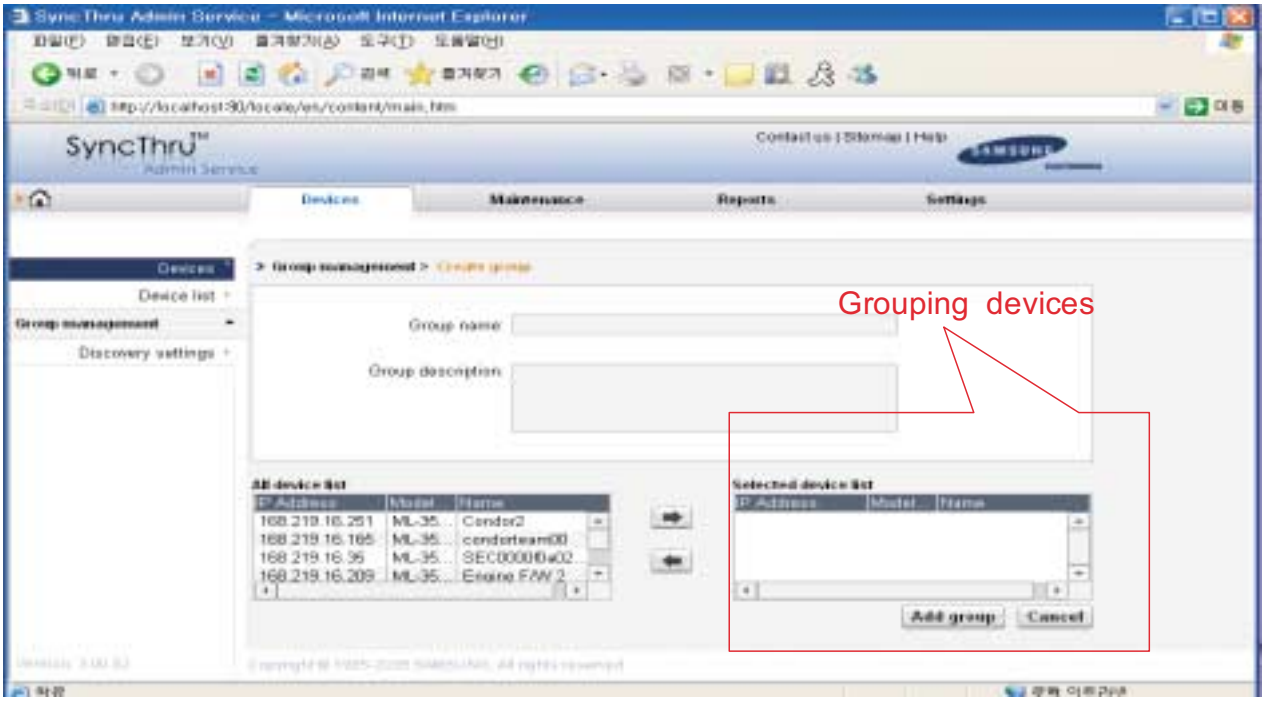
· **Detecting and Displaying devices on the network**



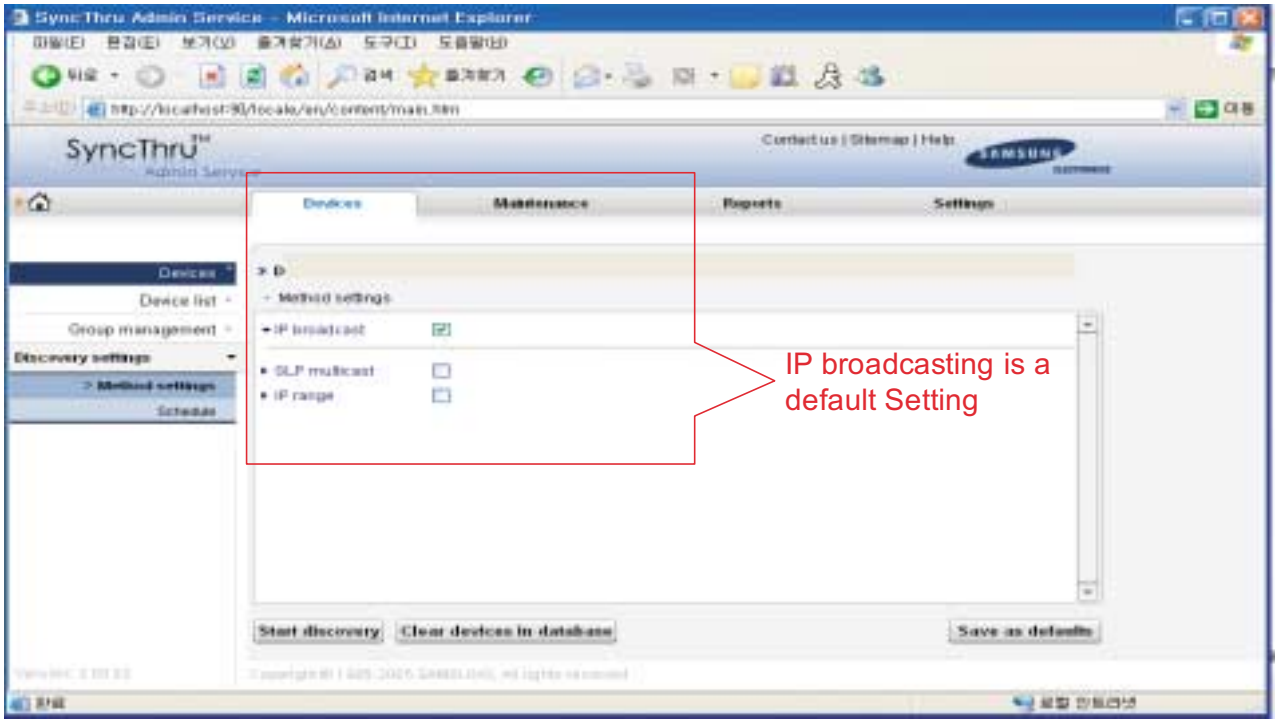
· **Display general , Supply, Protocols, Status, Usage meters, Alert, Diagnostics information**



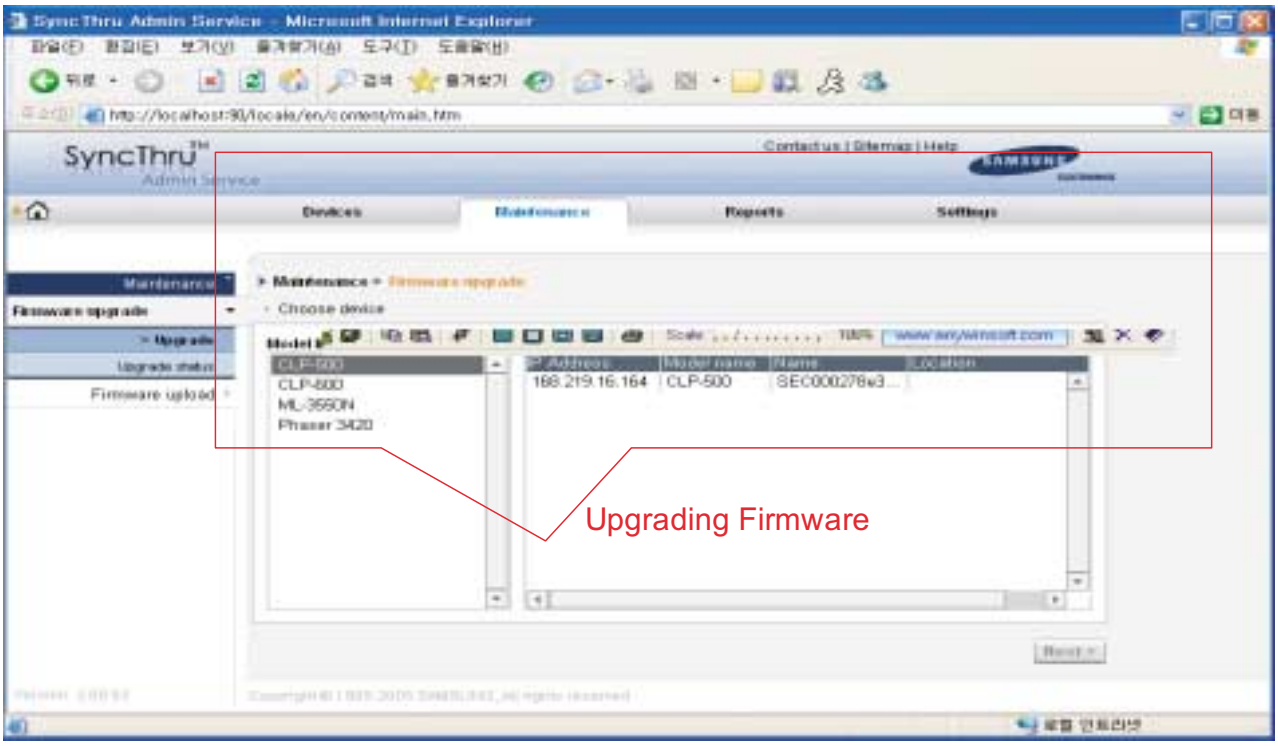
· Grouping and Managing devices



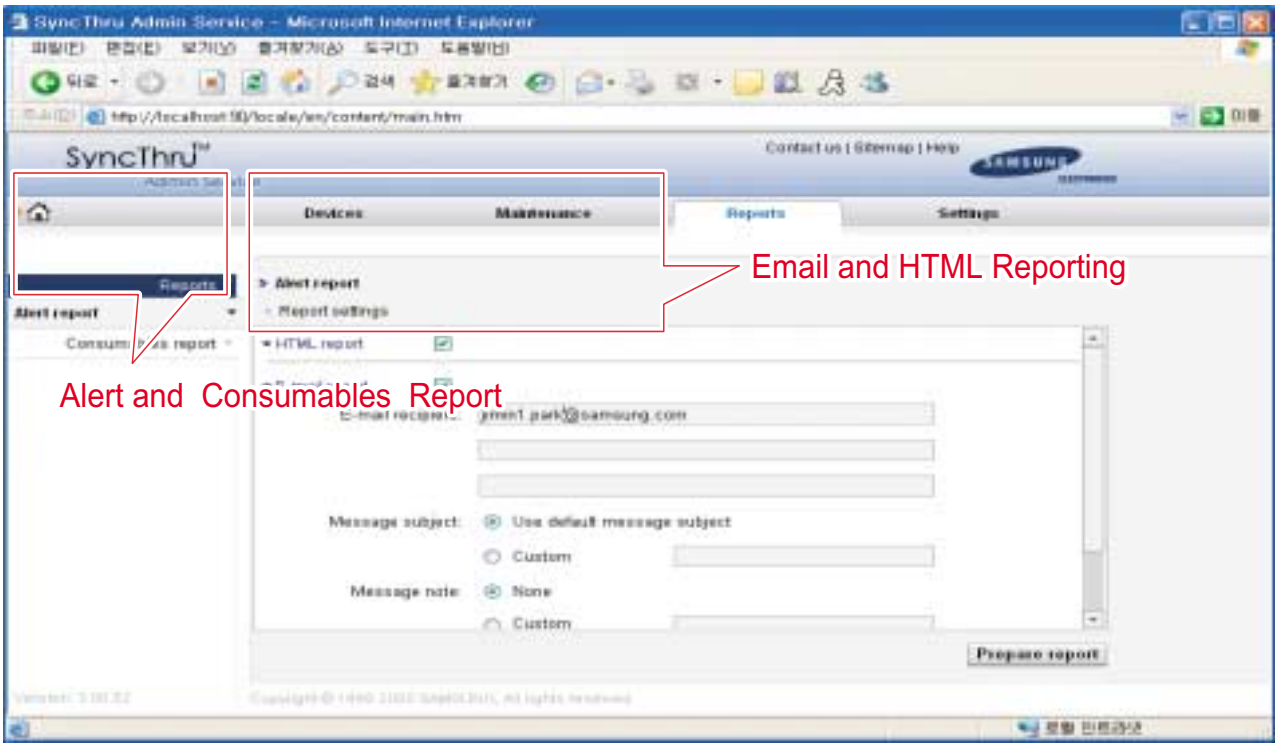
· Setting of detection Protocol



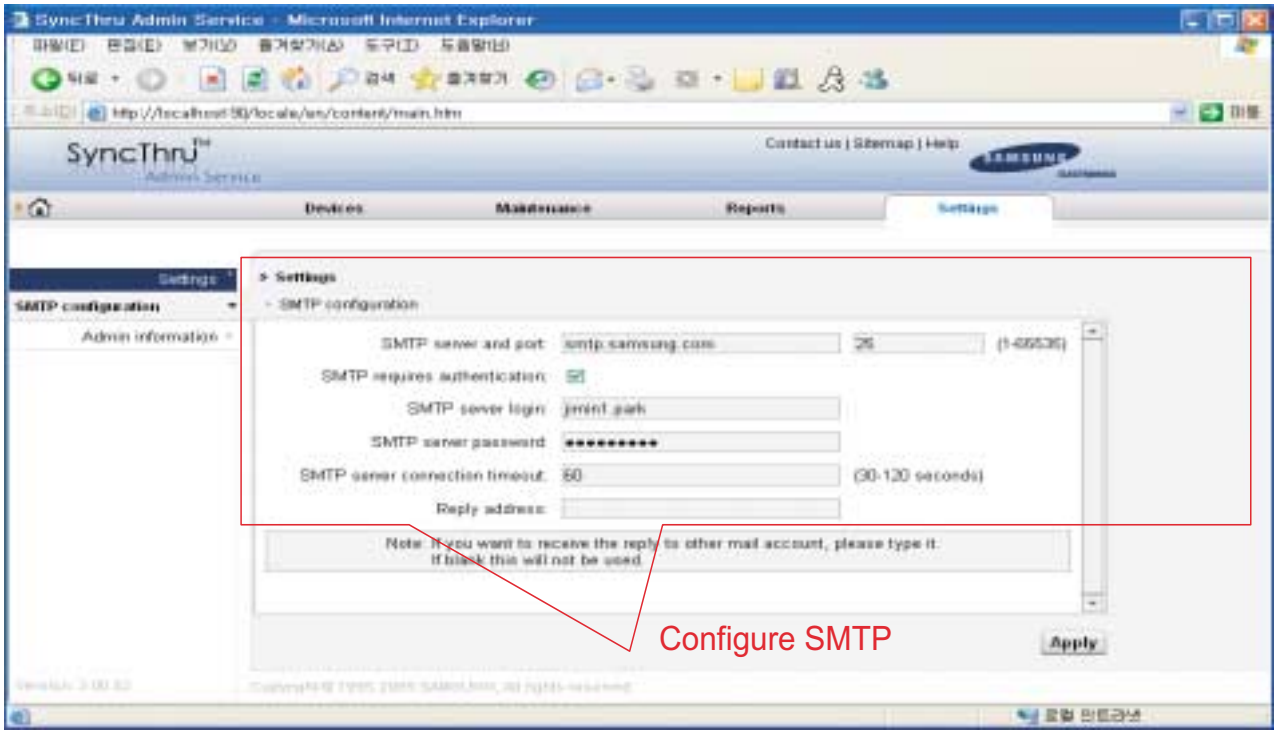
· **Upgrading Firmware to multiple devices**

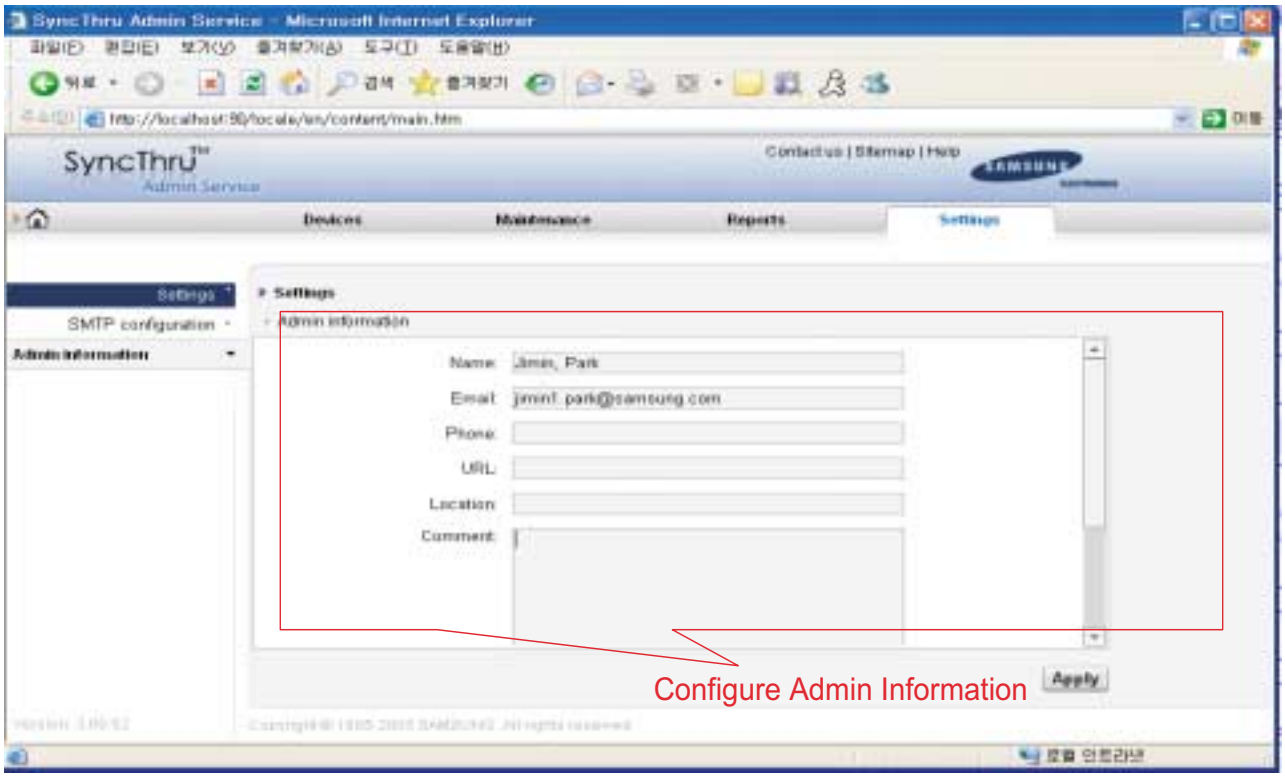


· **Reporting information of Alert and Consumables by HTML or Email**

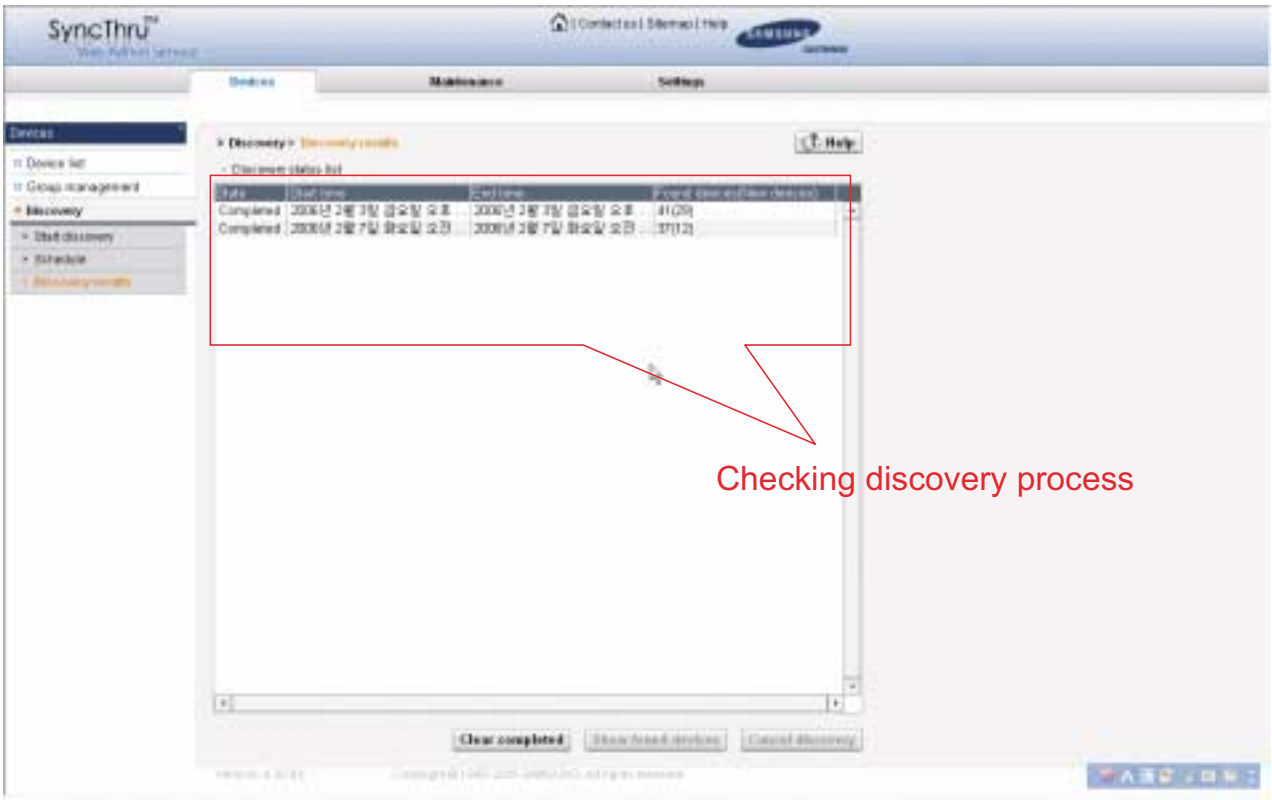


· Configure SMTP Server and Admin Information

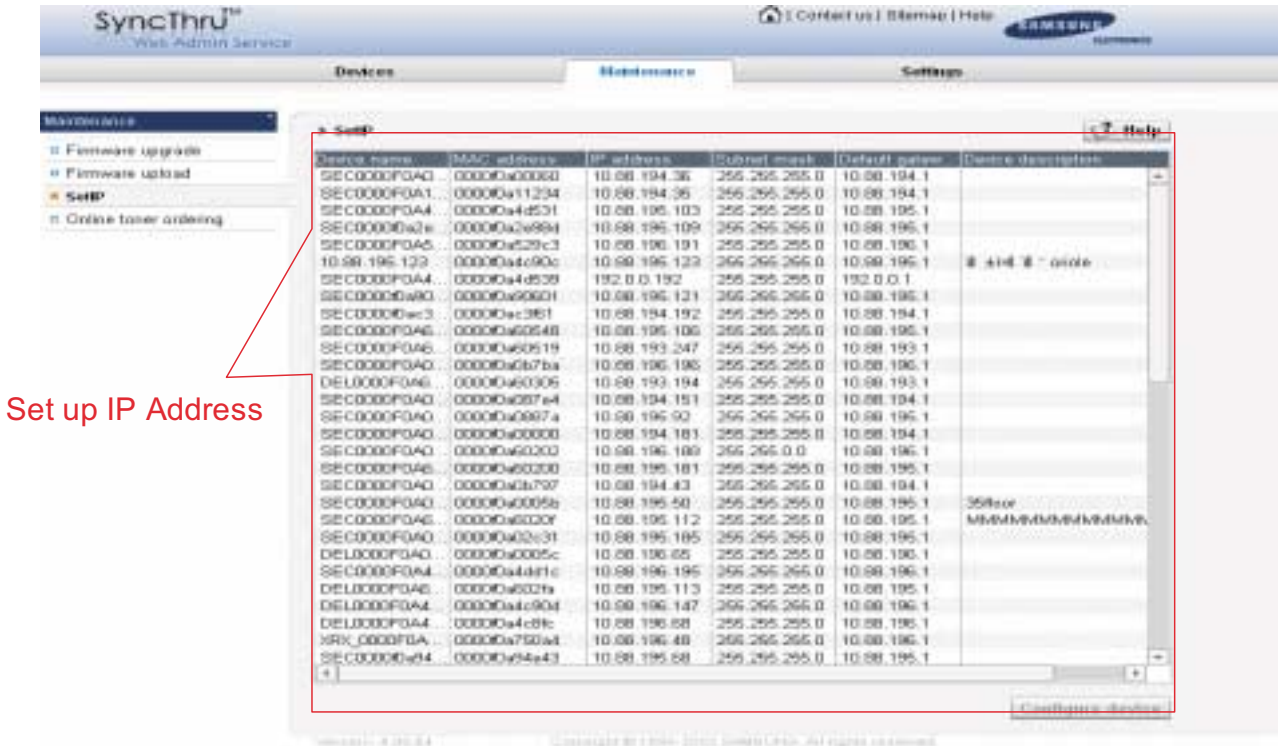




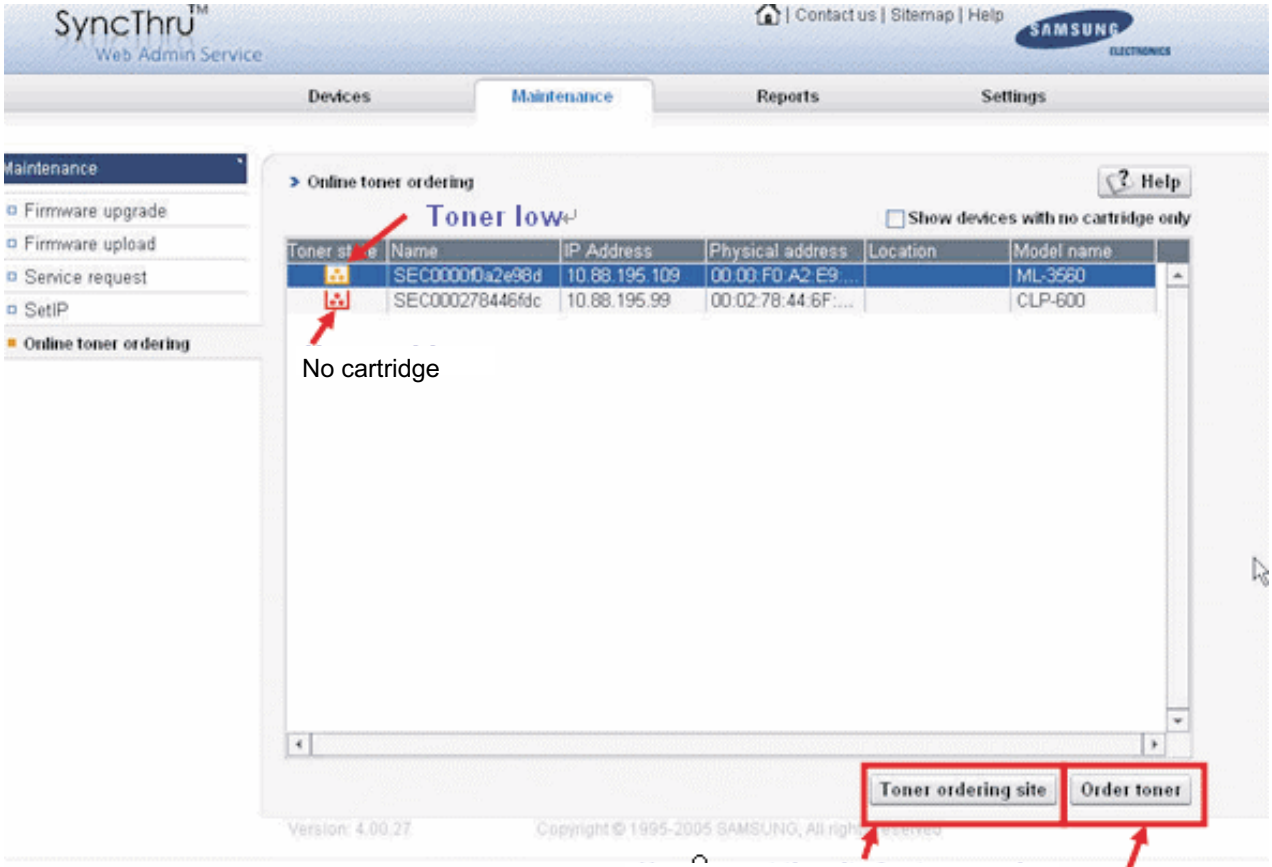
· **Discovery results**



· **Set up IP**



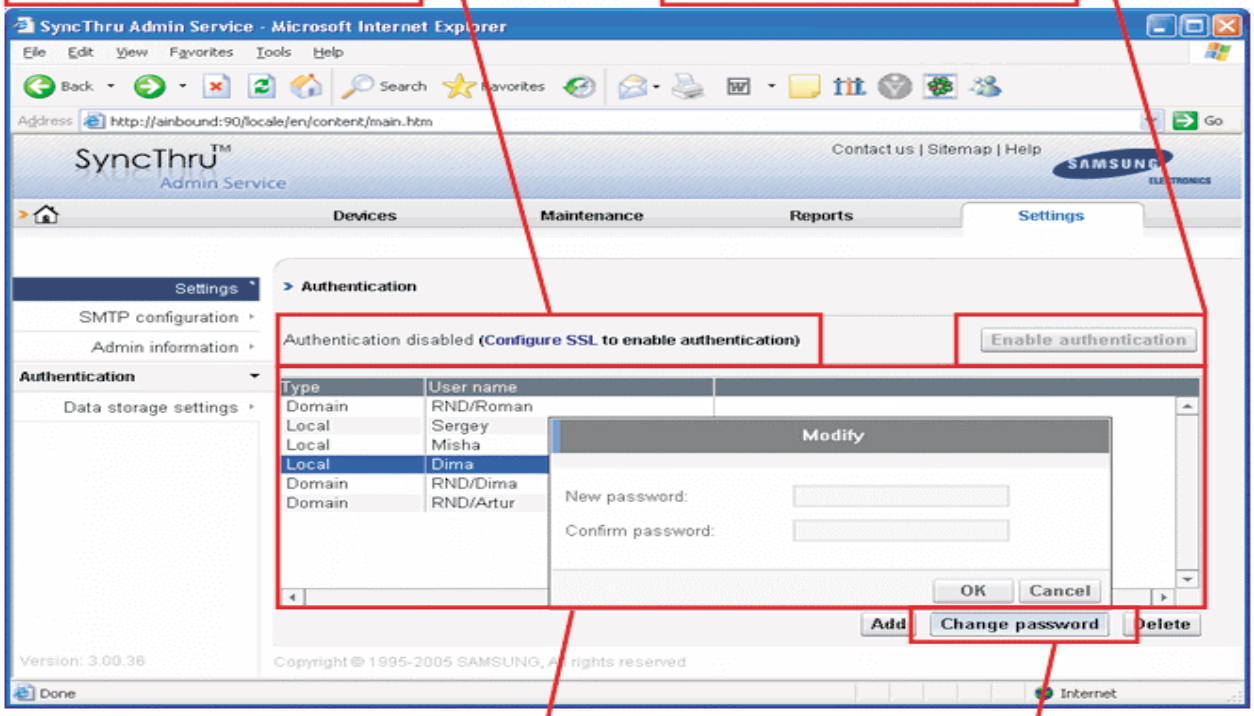
· Online toner ordering



· Authentication settings

If SSL is not enabled and configured then it's not possible to enable authentication. The link leads to SSL configuration.

Authentication can be enabled with the button.
Authentication works only when SSL is enabled.



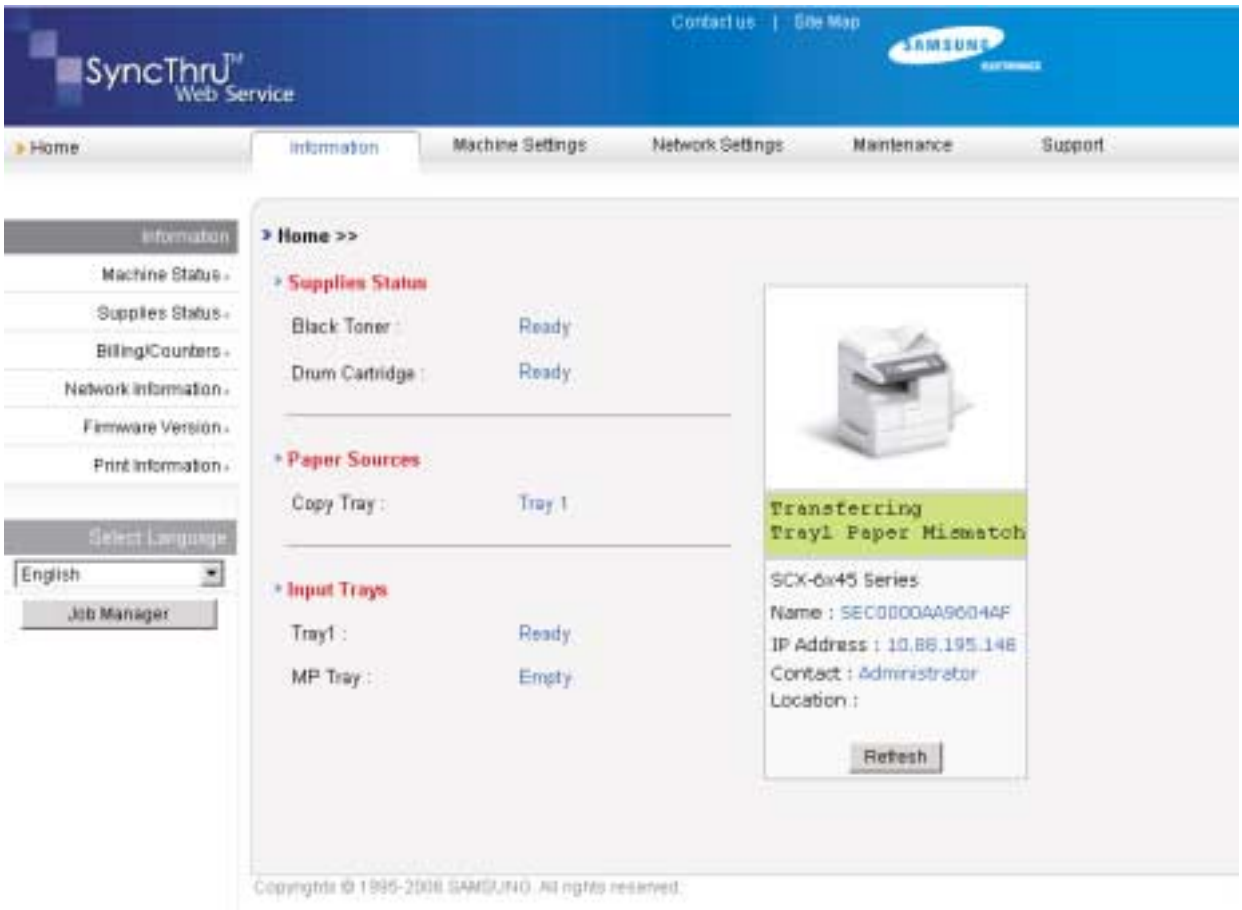
User list shows user accounts both from Domain and Local. The method of authentication is used according the type of user profile (Local or Domain).

Change password for Local users only.

11.6 Samsung SyncThru Web Service: General Information (MFP)

General Information

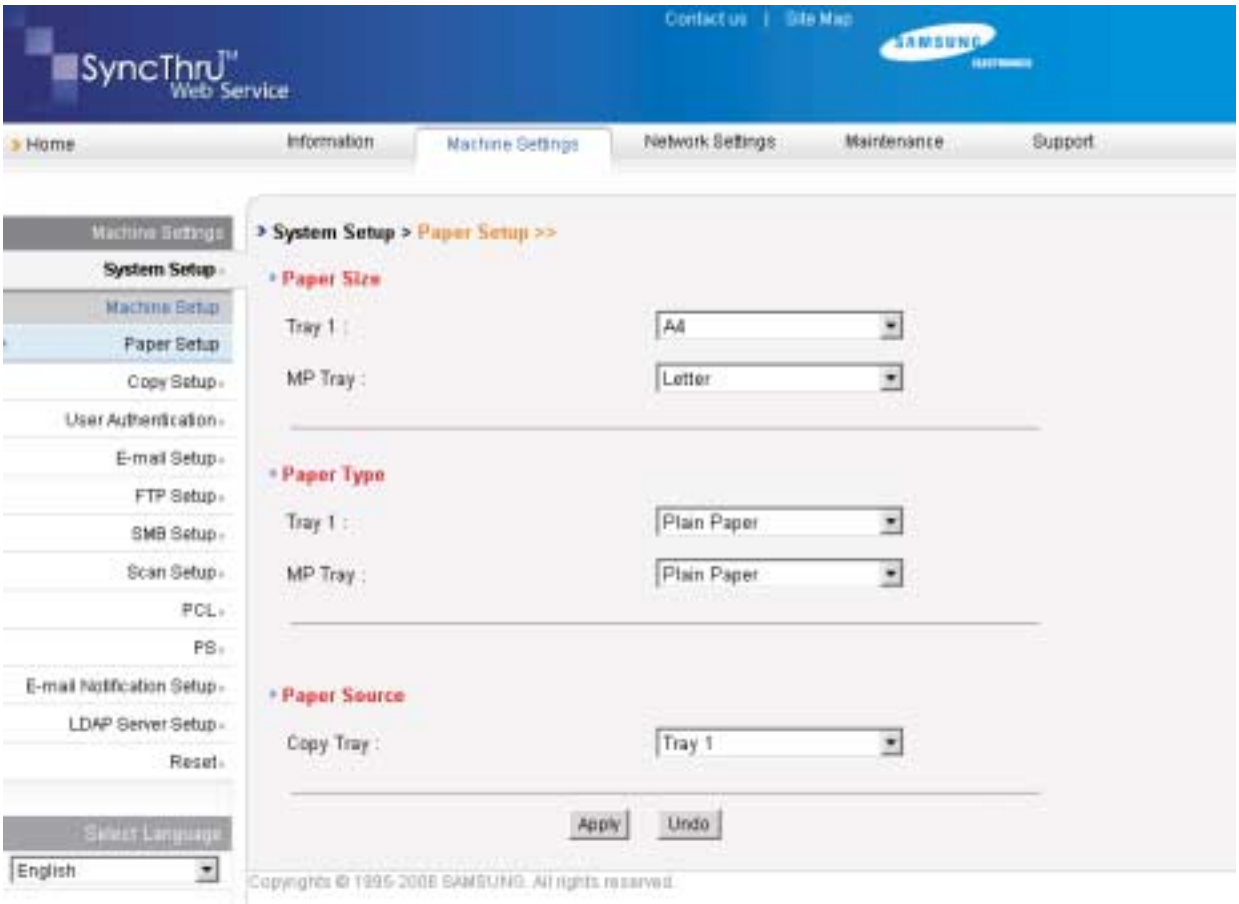
- Machine Status
- Supplies Status
- Billing/Counters
- Network Information
- Firmware Version
- Print Information



11.7 Samsung SyncThru Web Service: Machine Settings (MFP)

Machine Settings

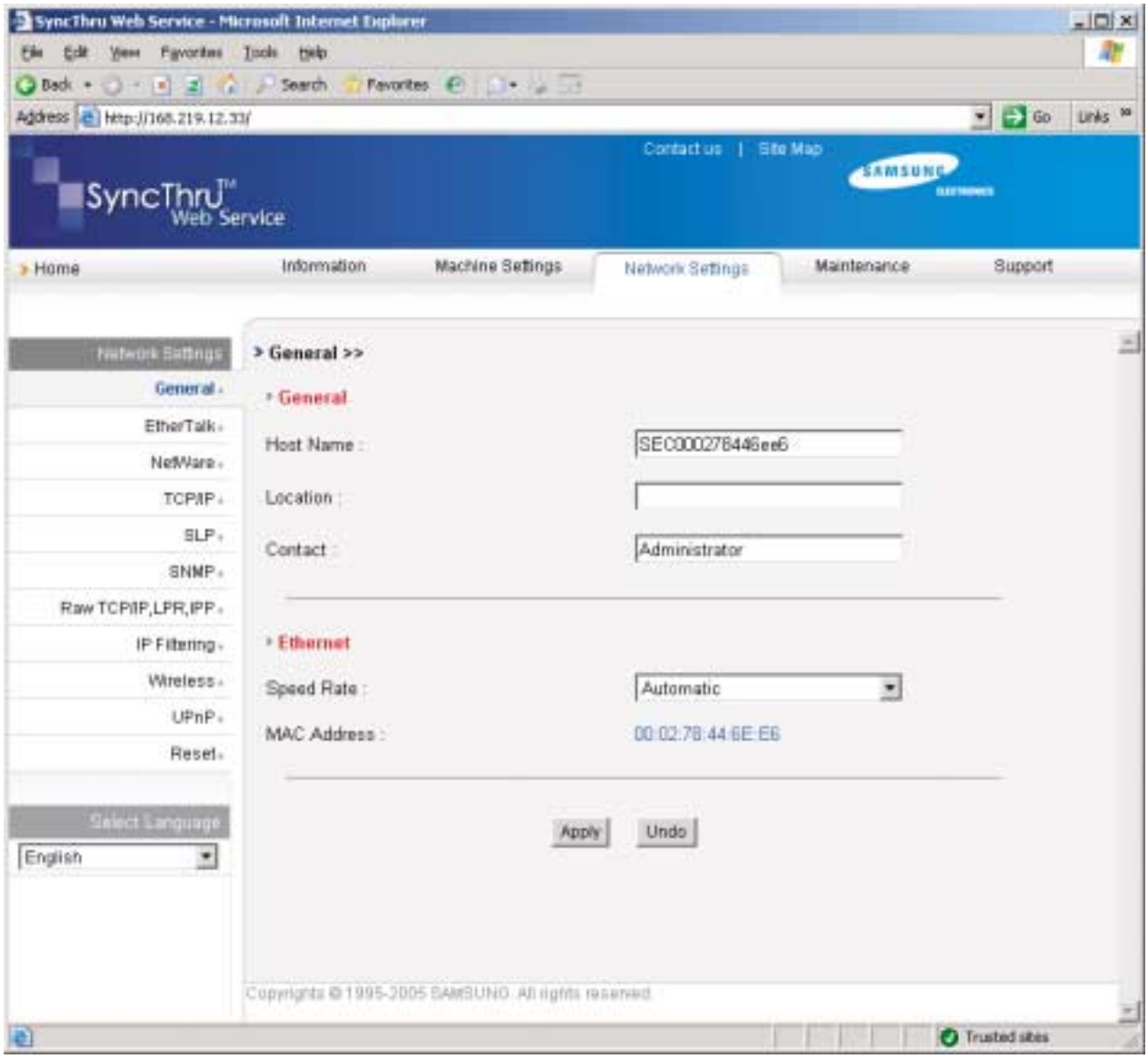
- System Setup
- Copy Setup
- User Authentication Setup
- E-mail Setup
- E-mail Notification Setup
- Reset
- ...



11.8 Samsung SyncThru Web Service: Network Settings

Network Settings

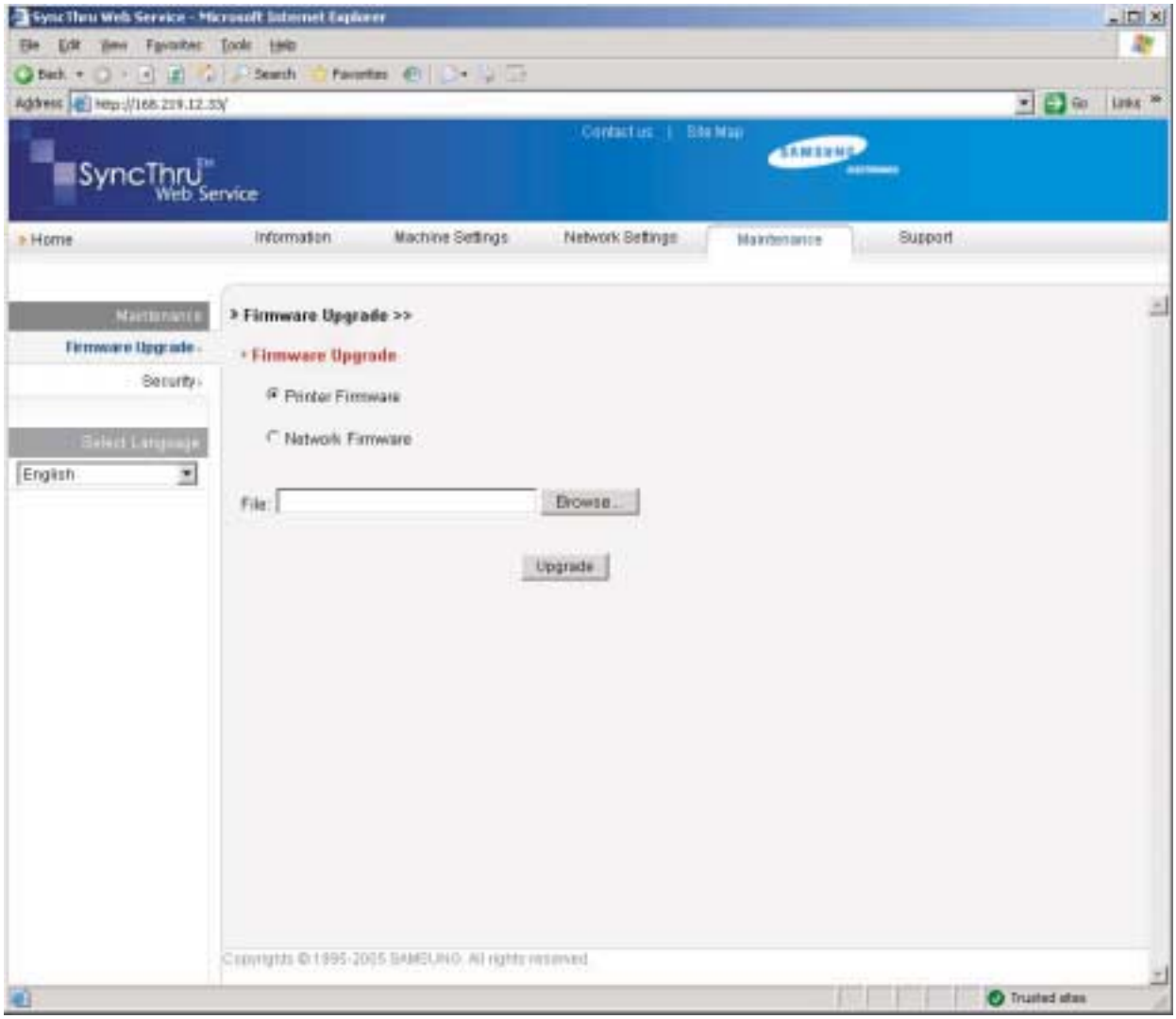
- General
- NetWare
- TCP/IP
- SLP
- SNMP
- Raw TCP/IP, LPR, IPP
- IP Filtering
- Wireless
- UPnP
- Reset



11.9 Samsung SyncThru Web Service: Maintenance

Maintenance

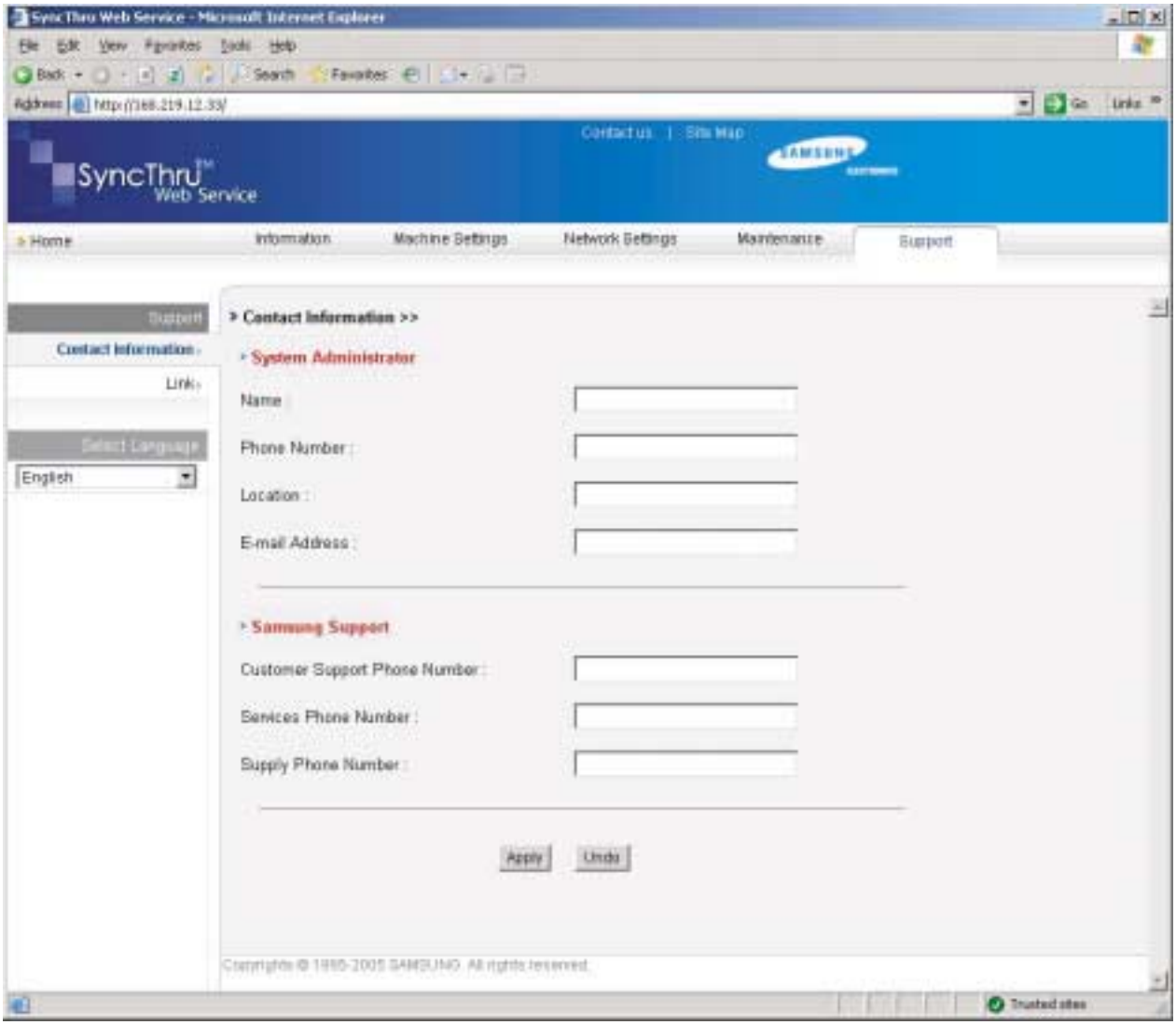
- Firmware Upgrade
- Security



11.10 Samsung SyncThru Web Service: Support

Support

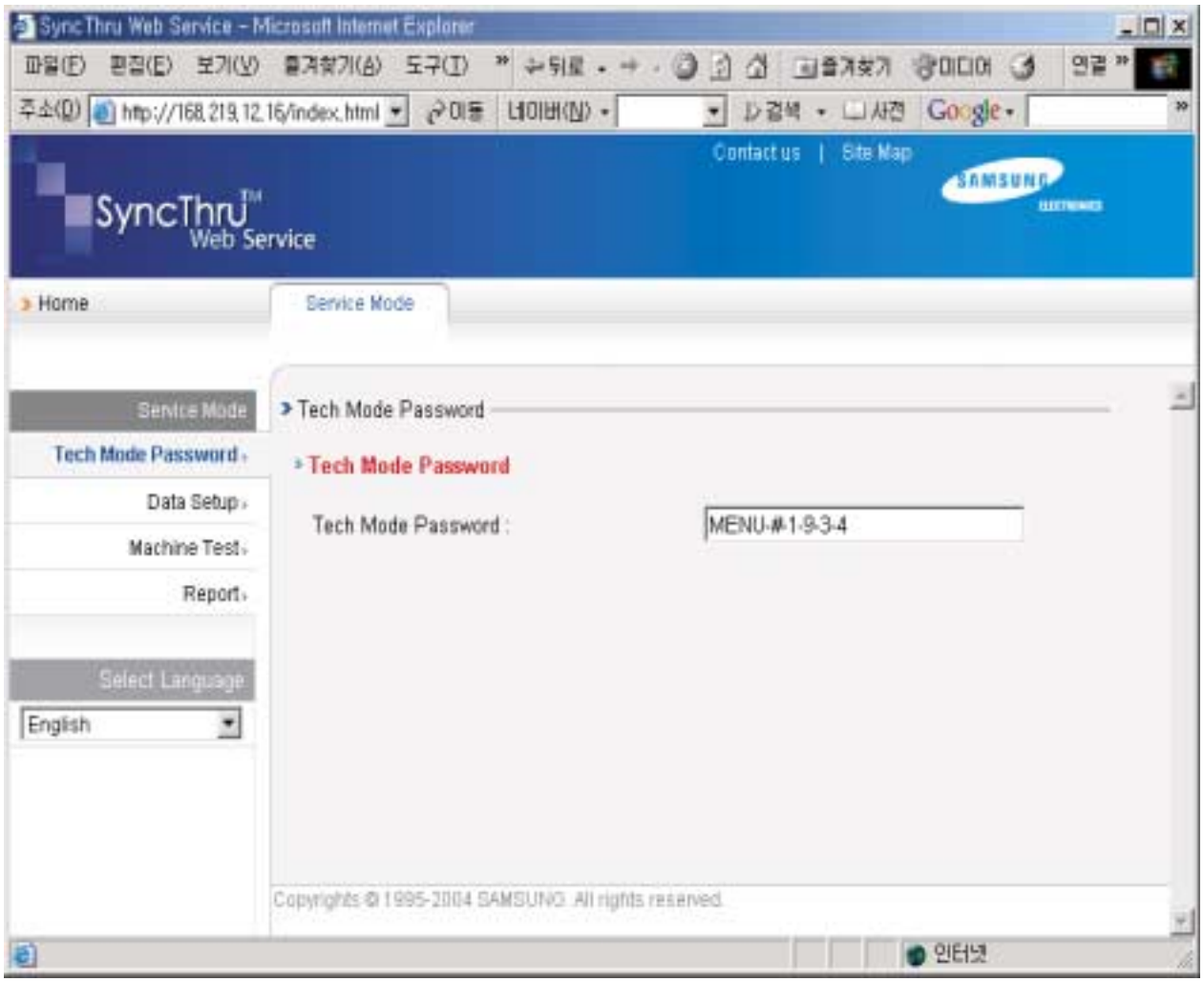
- Contact Information
- Link



11.11 Samsung SyncThru Web Service: Service (MFP)

Service

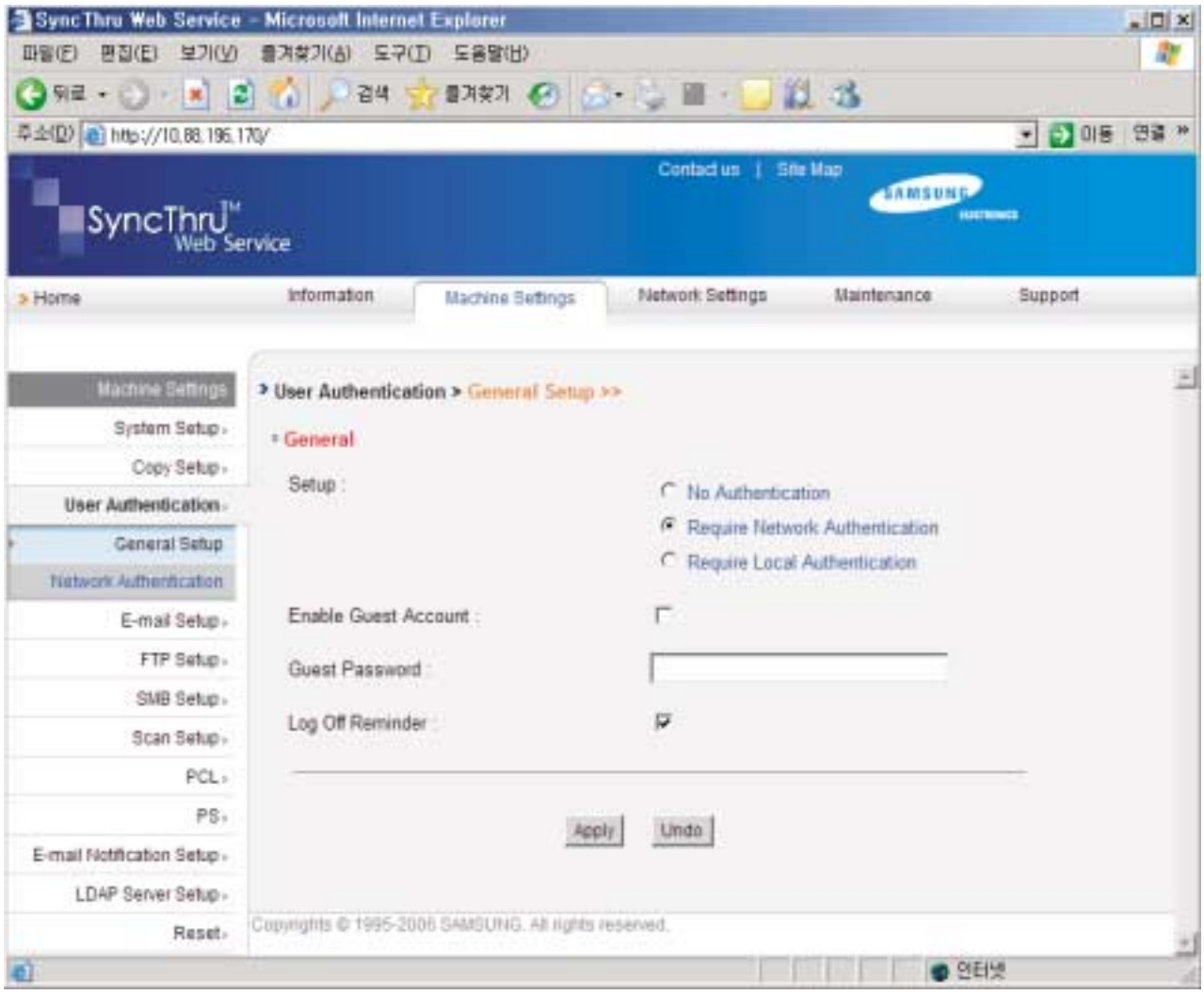
- http://NPC-IP-Address/service.html
- Tech Mode Password
- Data Setup
- Machine Test
- Report



11.12 Samsung SyncThru Web Service: Authentication

General Setup

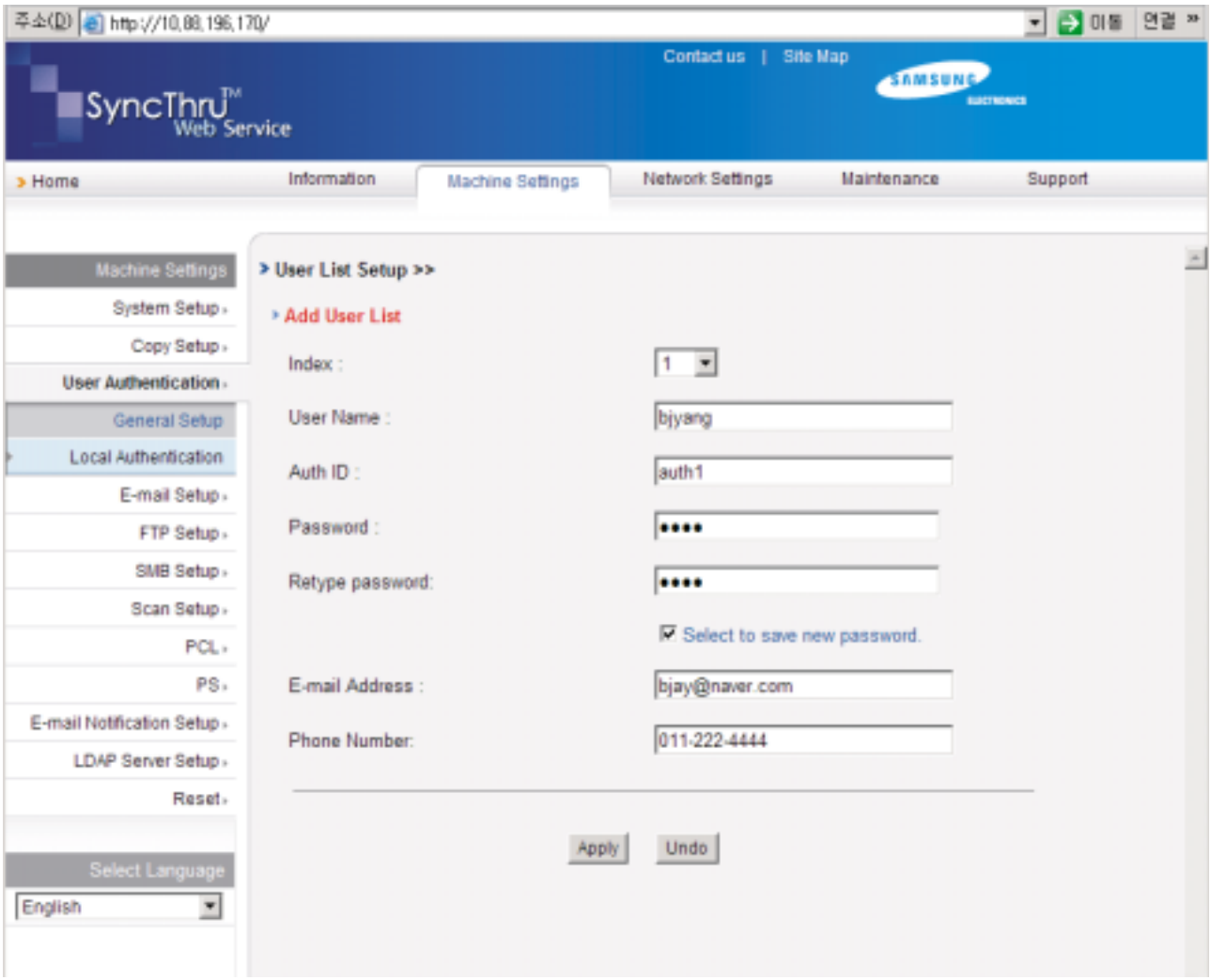
- Setup
- Enable Guest Account
- General Password
- Log Off Reminder



11.13 Samsung SyncThru Web Service: Authentication (Local Authentication)

Local Authentication

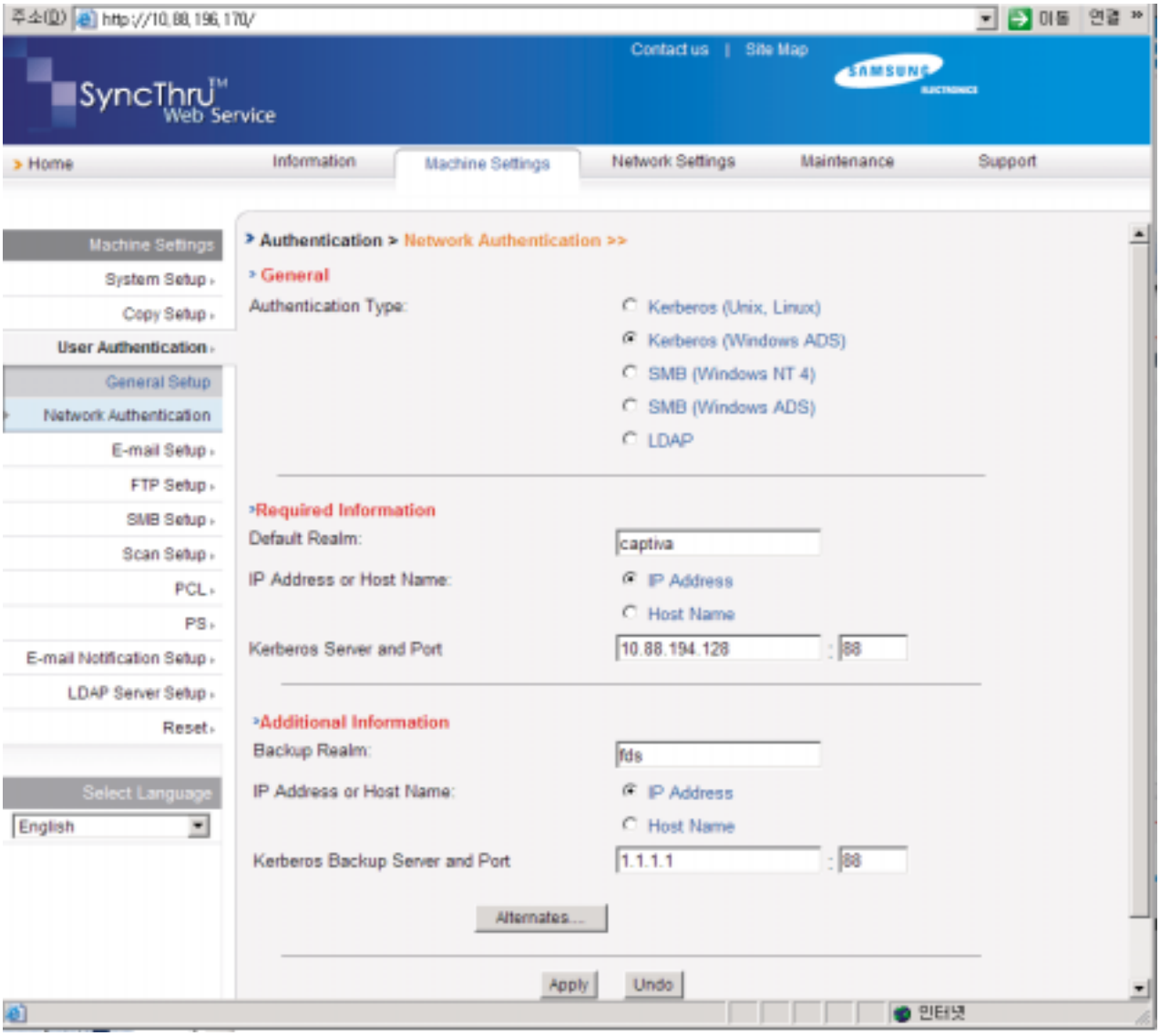
- Index
- User Name
- Auth ID
- Password
- E-mail Address
- Phone Number



11.14 Samsung SyncThru Web Service: Authentication (Network Authentication)

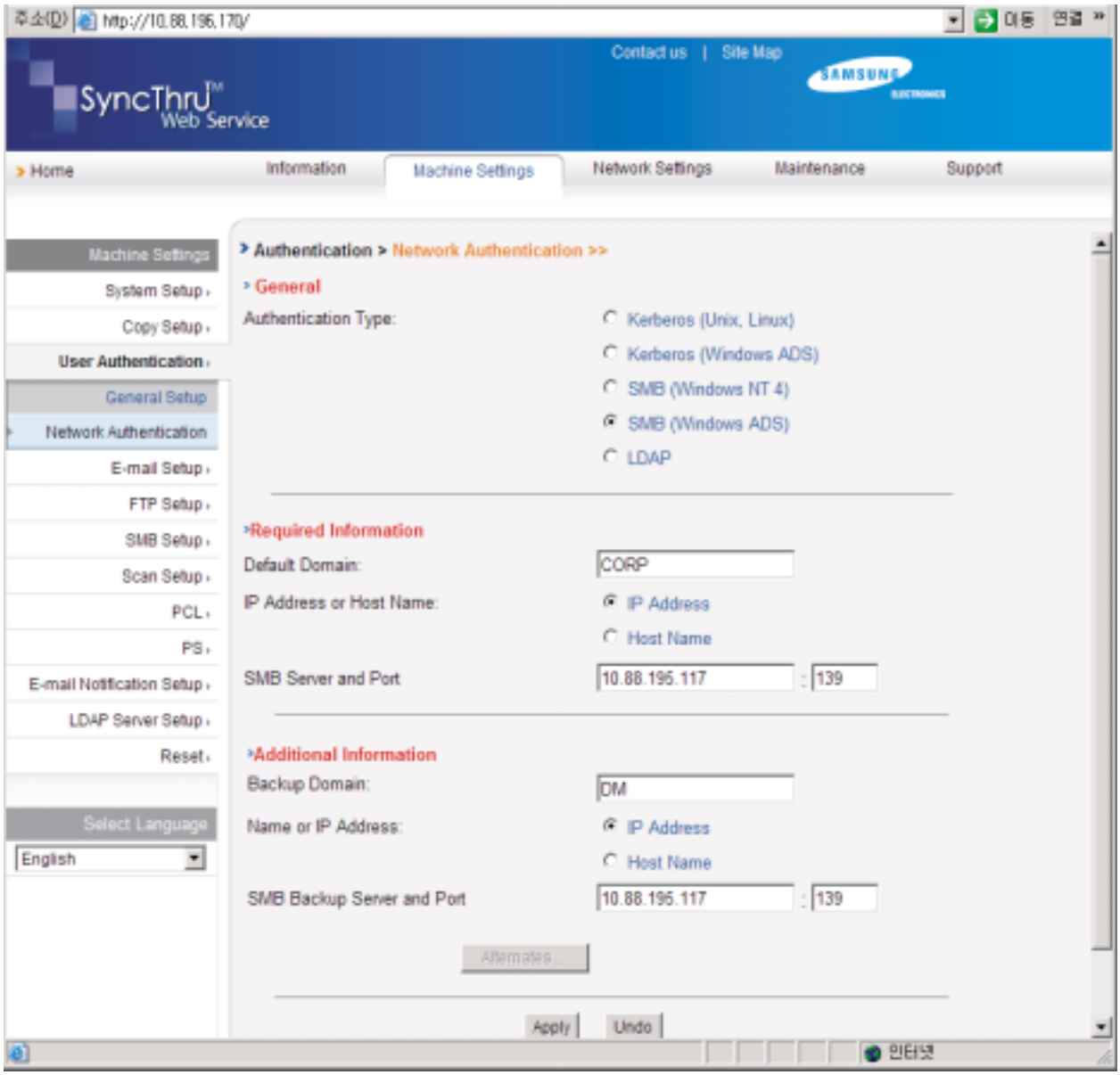
Network Authentication (Kerberos Setup)

- Default Realm
- IP address or Host Name
- Kerberos Server and Port
- Backup Realm
- IP address or Host Name
- Kerberos Backup Server and Port



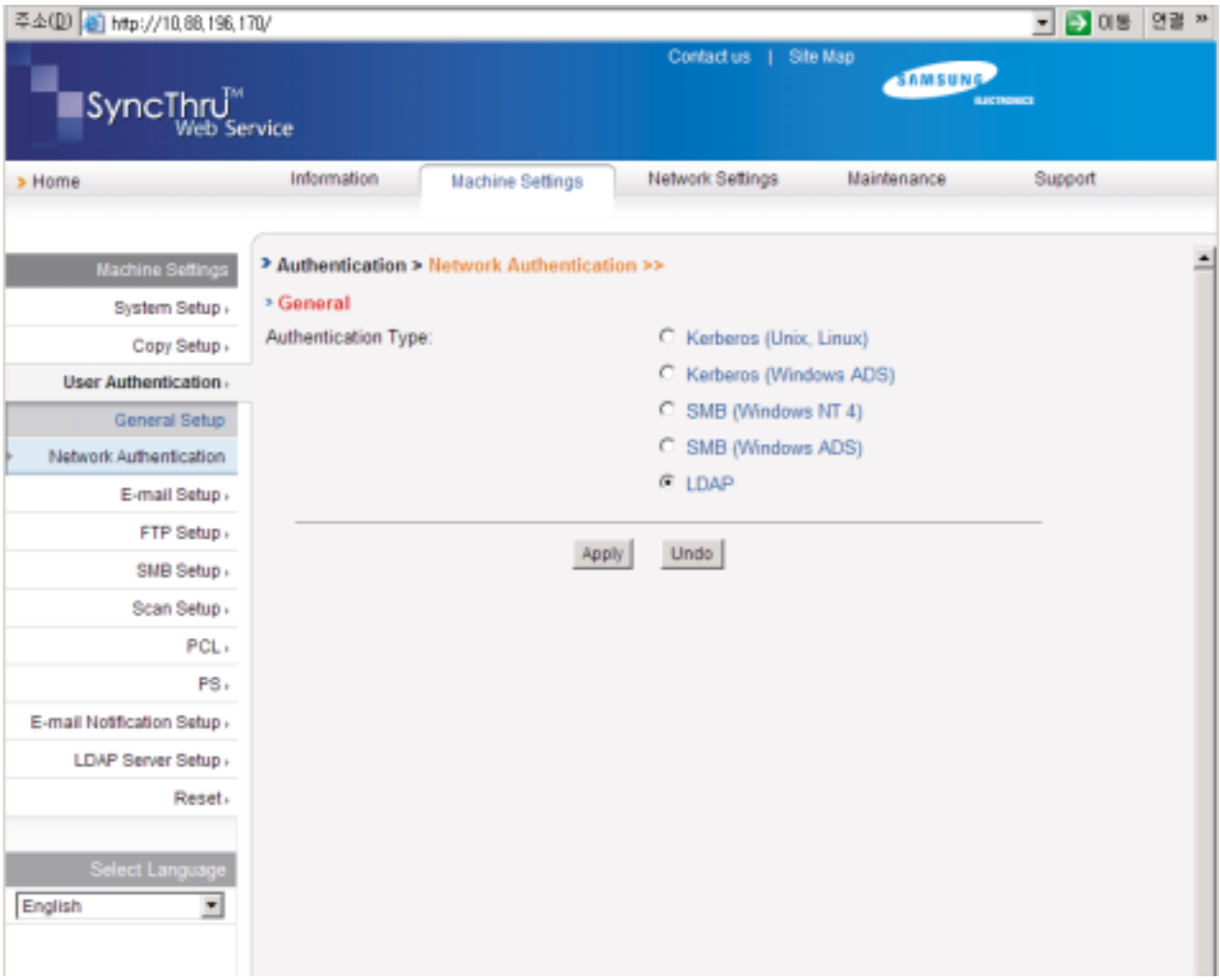
Network Authentication (SMB Setup)

- Default Domain
- IP address or Host Name
- SMB Server and Port
- Backup Domain
- IP address or Host Name
- SMB Backup Server and Port



Network Authentication (LDAP Setup)

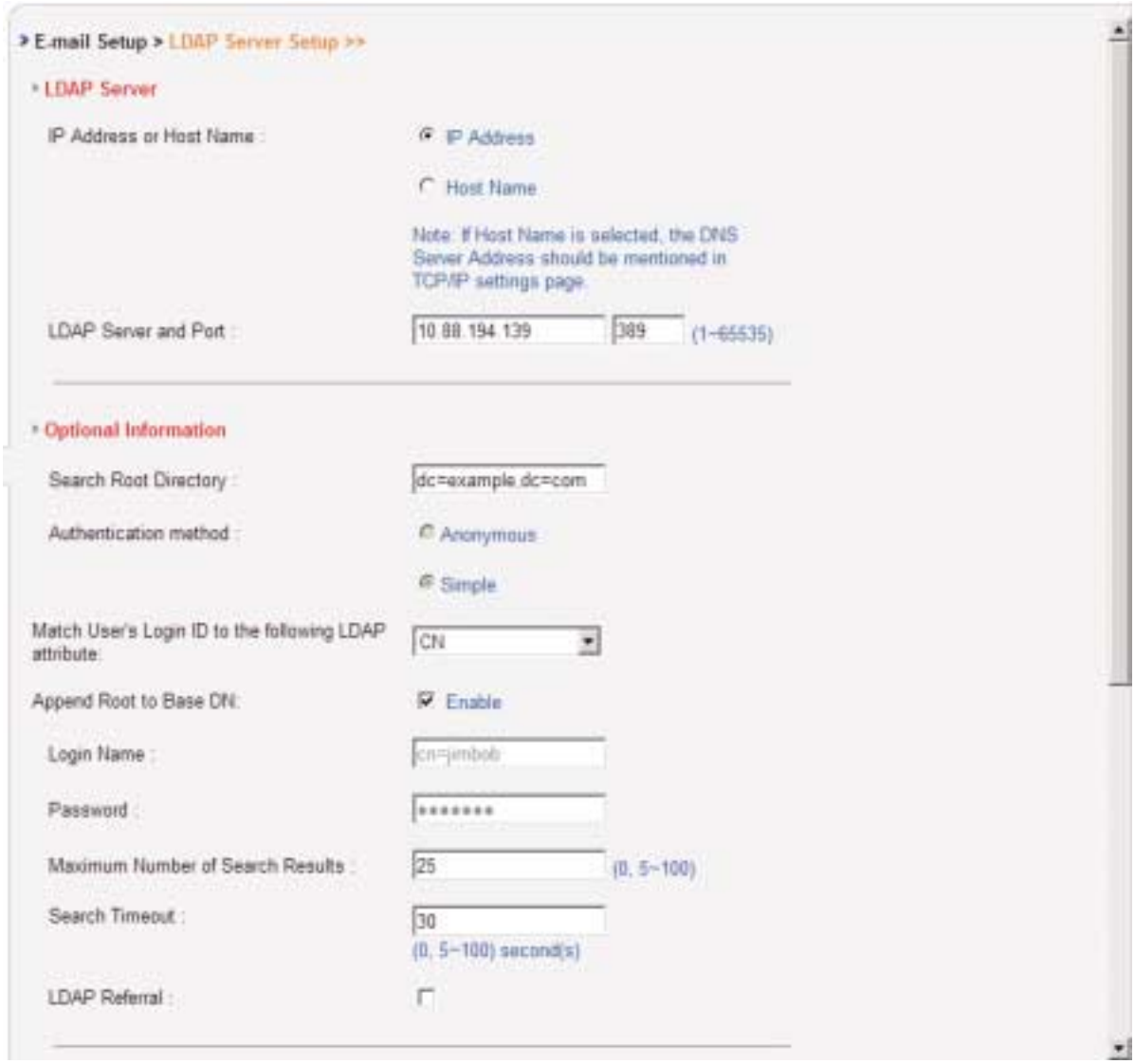
- There is no setup of LDAP Server
  - Server configuration of LDAP Server item is used to Auth Login



11.15 Samsung SyncThru Web Service: LDAP Server Setup

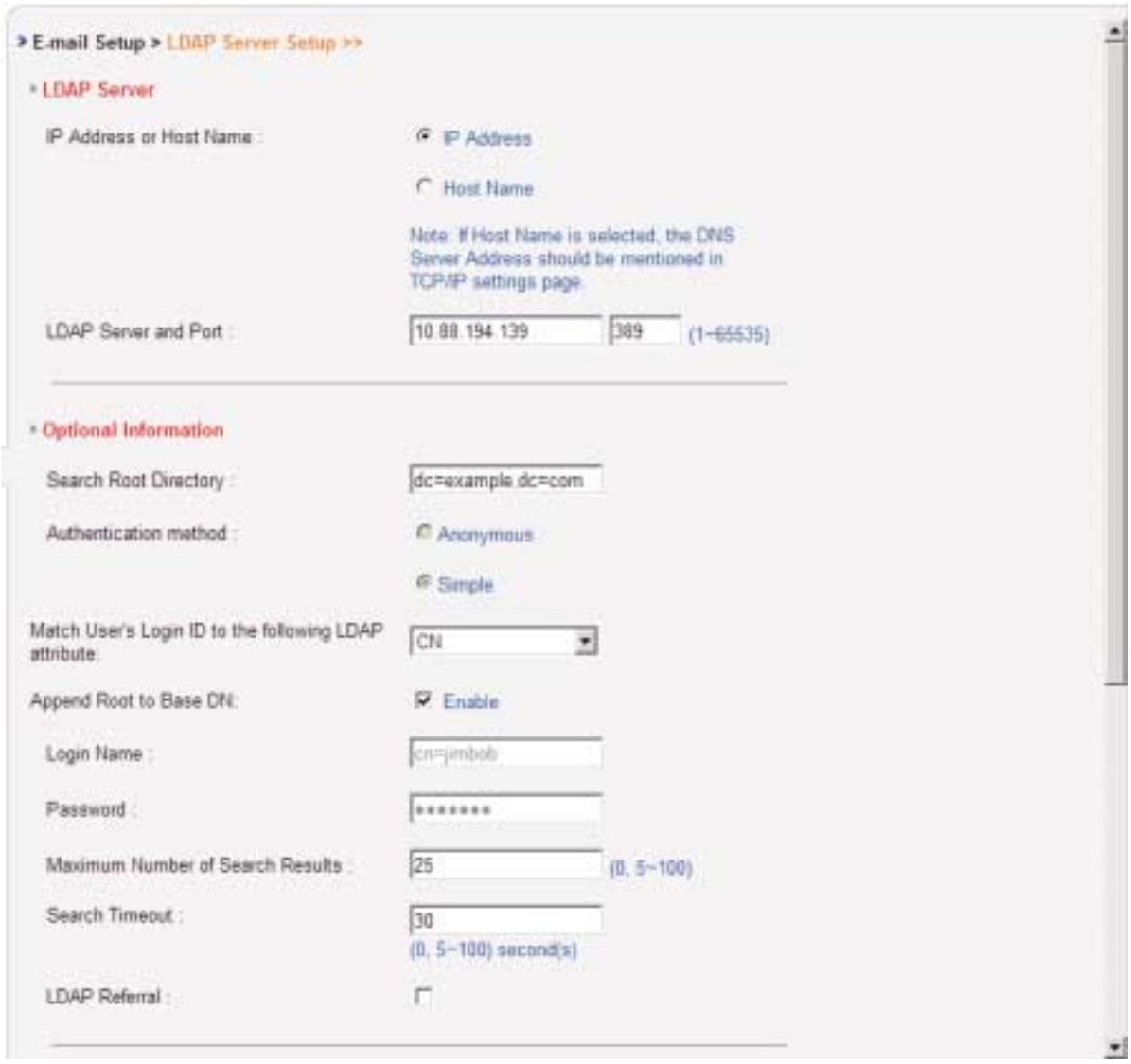
LDAP Server Setup_1

- IP address or Host Name
- LDAP Server and Port
- Search Root Directory
- Authentication Method
- Match User's Login ID to the Following LDAP attribute:



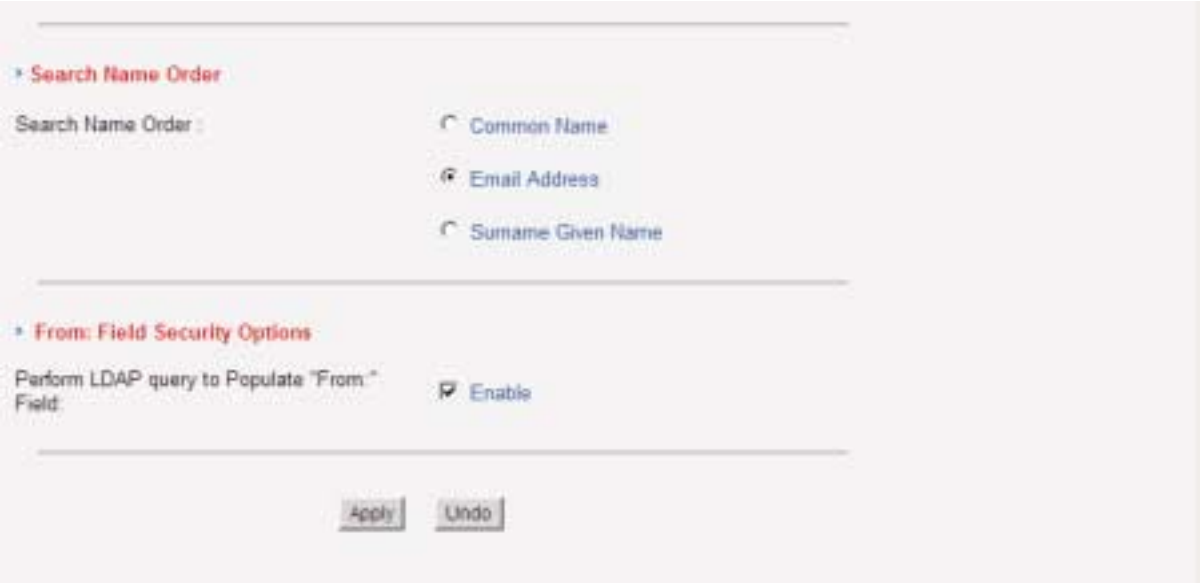
LDAP Server Setup_2

- Append Root to Base DN
- Login Name
- Password
- Maximum Number of Search Result
- Search Timeout
- LDAP Referral



LDAP Server Setup_3

- Search Name Order
- From: Field Security Options



11.16 Samsung SetIP

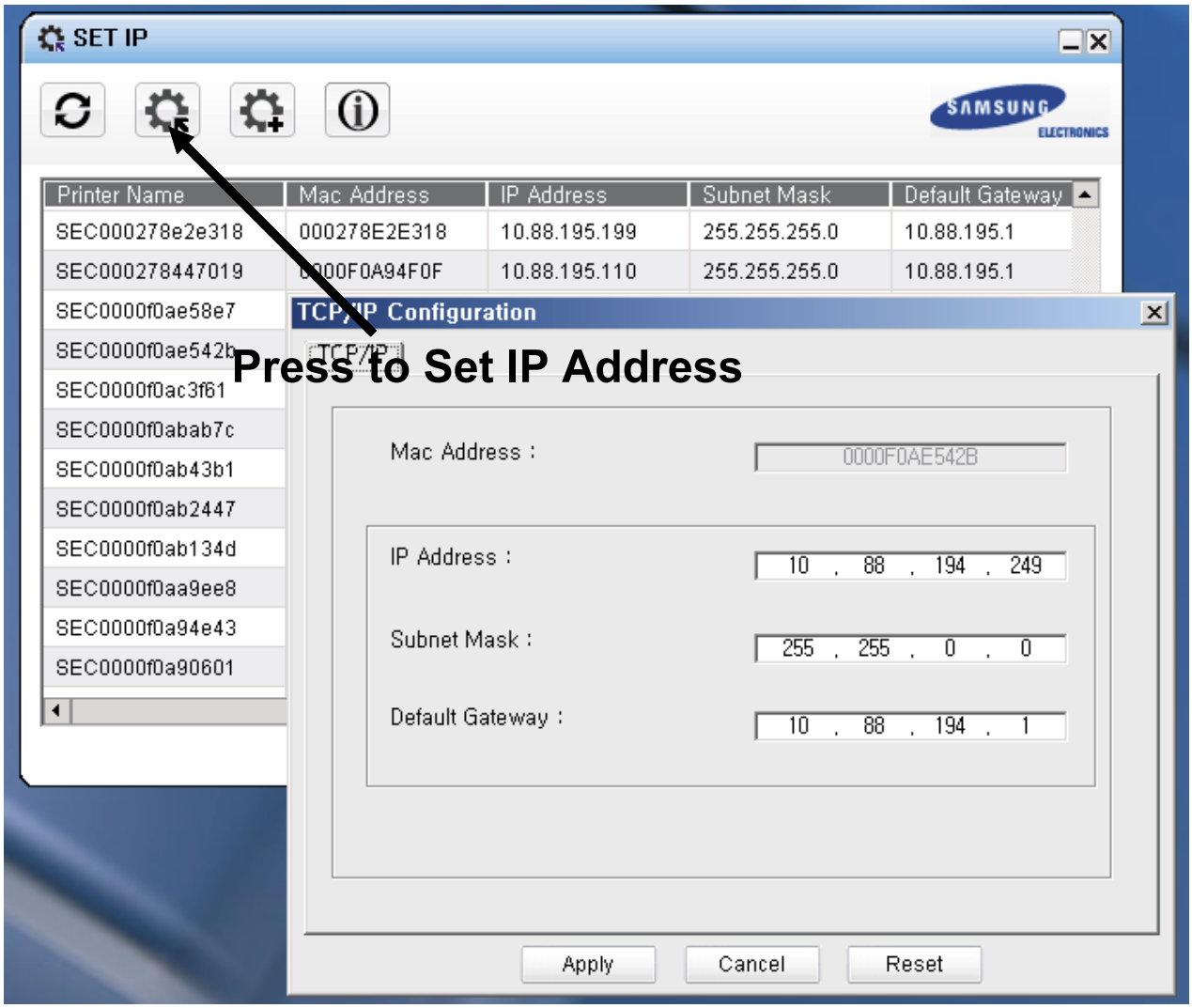
Configuration of IP Address

- Mostly used at first installation of network printer
- IP address setting with MAC address only
- MAC address is written on printer's backside

Samsung SetIP Utility

- Running on Microsoft Windows OS only
- Automatic detection of Samsung network printers
- Manual setting of undetected network printers

· Samsung SetIP: Application



11.17 TCP/IP Printing Protocol

Samsung Network Printer Port Printing

- TCP Port : 2000
- Port Monitor installation
- OS : Windows95/98/NT/ME

LPD (Line Printer Daemon) Printing

- TCP Port : 515
- OS : Unix, Linux, Windows OS (Win NT, 2K ~)

Microsoft Standard TCP/IP Printing

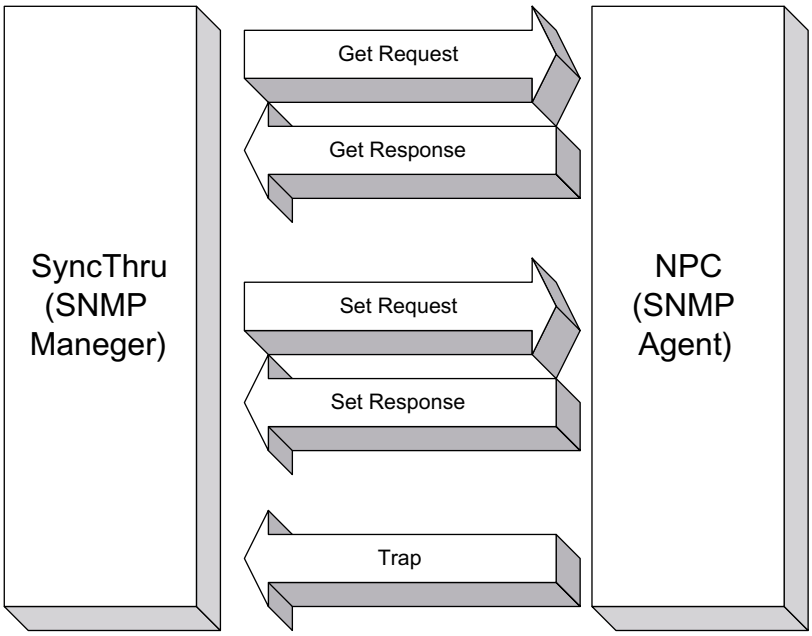
- TCP Port : 9100
- OS : Windows OS (Win 2K~)

IPP Printing Protocol

- TCP Port : 631
- OS : Windows OS (Win 2K~), Mac OS (MAC 10.3~)

11.18 Management Protocol

SNMP means Simple Network Management Protocol



11.19 HTTP

Web Server Protocol

- Used in Samsung SyncThru Web Admin Service
- Used in SyncThru Web Service (Embedded Web Server)
- Used in IPP 1.1 Protocol

11.20 Network models

Model Name	ML-3050 Series	ML-2570 Series	ML-4550 Series	CLP-300 Series	SCX-5x30 Series	SCX-6x22 Series	CLX-3160 Series	SCX-4725 Series	SCX-6x45 Series
Project Name	Dove	Oriole	Stork	Gogh	Elbert	Elburz	Iris	Whitney2	Jungfrau
Network Type	On-Board	On-Board	Phy-Board	On-Board	On-Board	Phy-Board	On-Board	On-Board	NPC3 - H
Software Platform	Platform	Platform	Platform	Platform	Platform	Platform	Platform	Platform	Platform
NetWare	O	X	O	X	O	O	X	X	O
EtherTalk	O	O	O	X	O	O	X	O	O
Wireless	Opt	X	Opt	X	X	X	X	X	X
SWAS	3.0	4.0	4.0	3.0	3.0	4.0	3.0	4.0	4.05
Network Scan	X	X	X	X	O	O	O	X	O
Scan To Email	X	X	X	X	O	O	O	X	O
Scan To SMB	X	X	X	X	O	O	X	X	O
Scan To FTP	X	X	X	X	O	O	X	X	O
Network Authentication	X	X	X	X	X	X	X	X	O